

# THE QAMAR NEWSLETTER

Issue 17, October '17



Cover story on the failed Kurdish Referendum and seizure of Kirkuk's oilfields by Robin Mills.

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Qamar Energy is a leading energy consultancy based in Dubai, and expedites in researching the oil and gas dynamics of the Arab world.

The QAMAR NEWSLETTER is a monthly publication that provides critical appraisal and focussed assessments of the month's energy developments across the Middle East and North Africa.



# SEIZURE OF KIRKUK FIELDS SEES DREAMS OF KURDISH AUTONOMY CRUMBLE

Robin Mills • *A version of this article appeared in The National, Oct. 22, '17* • **COVER STORY**



What oil gives, oil can take away. Over the past decade, the Kurds of Iraq used petroleum revenues to build the basis of an independent state. But following their independence referendum of September 25, the decisive response of Baghdad has stripped them of the oil-fields vital to their budget.

The open secret of the Kurdish oil boom was that, at least until 2013, it was largely financed by the region's revenue share from Baghdad. The fine new towers of Erbil were built with money derived from the oil-fields of Basra. When the Kurdistan region's allocation of the federal budget was cut off following disputes over independent oil exports and sales, it plunged deeply into debt – to local banks, Turkey and oil companies and traders.

The region's financial position improved when, following the fall of Mosul to ISIS in June 2014, Kurdish forces moved into a vacuum and took control of most of Kirkuk. The giant Kirkuk field, discovered in 1927, is divided into three domes: the southernmost and oldest, Baba Gurgur, the middle, Avana and the northernmost, Khurmala, which has been operated by Kurdish company KAR since 2009.

Nearby is another large field, Bai Hassan, and two smaller ones, Jambur and Khabbaz, which are all linked by pipeline to Avana. Baghdad has now regained control of all except Khurmala. From Baba Gurgur, the main export pipeline runs south-west to the refining town of Baiji and then north to the Turkish port of

Ceyhan, but it has been shut down by ISIS attacks since 2014. A separate pipeline was opened by the Kurds in 2013 to take oil from Khurmala and other fields to the Turkish border and connect to the Kirkuk-Ceyhan pipeline.

Output from the Taq Taq field, once the Kurdish region's flagship, has collapsed as reserves were found to be greatly overstated, and the geology of several other Kurdish fields has disappointed. This left the Kurdistan Regional Government (KRG) dangerously dependent on Kirkuk for revenues. In the space of a day, that control has evaporated, and there are even suggestions of federal Iraqi forces advancing on Khurmala and other Kurdish areas.

If the Kurds were to lose control of Khurmala, they would not only be deprived of its 110,000 barrels per day (bpd) production, but also the 13,500 bpd from Taq Taq, whose export pipeline connects there. That would leave them with just Tawke, at 110,000 bpd, Taqa's Atrush field with 22,000 bpd, Shaikan with 38,000 bpd, and a gaggle of small fields. Export revenues of some \$300 million monthly will not cover a budget of \$700 million, nor repay the traders who took big risks in advancing the KRG funds.

The Kurds' political mistakes are well-known: they forgot their dispensability after the defeat of ISIS, miscalculated their support in Washington, and underestimated the determination of Baghdad, Tehran and Ankara to prevent their secession. The

financial succour provided by Rosneft's entry to the region and its contribution to \$3 billion of oil pre-payments has not yet been backed up by Russian political assistance.

Though all Kurdish parties ultimately supported the referendum, it was widely seen as a mechanism to preserve incumbent president Masoud Barzani and his Kurdistan Democratic Party (KDP); the rival Patriotic Union of Kurdistan (PUK) appears to have struck a deal to allow the Iraqi forces into parts of Kirkuk. The KDP's control of the oil file, and its consequent revenues and opportunities for corruption, contributed to this disunity, as it had as far back as the 1994-7 civil war, when the KDP and PUK clashed over oil-smuggling routes.

The Kurdish government was seduced by the lure of Kirkuk, and failed to develop its own fields sufficiently. They contrapted a patronage-based, unsustainably costly rentier state. The confidence of oil investors has been undermined by inadequate and late payments of their costs, and long delays in approving new developments.

ExxonMobil has withdrawn from most of the blocks it entered with such fanfare in 2011, and the future of Bashiqa, in a disputed area, looks doubtful too. Though Rosneft has announced it has

signed for five, unnamed exploration blocks, several of these too are understood to be in debatable territory now likely to be back under Baghdad's control. And Chevron has ceased drilling due to the post-referendum disruption.

The region's major gas resources could have saved it money at home which was spent on expensive diesel for power generation, and developed domestic industries, while underpinning exports to Turkey and even federal Iraq. But only in August did it settle a long-running arbitration case with Sharjah-based Dana Gas, allowing it to move ahead with fields that would supply a new pipeline to Turkey. A Turkish pipeline would have given it some more leverage over Ankara as winter approaches.

For now, the Kurds have little choice but to negotiate with Baghdad, playing the few cards that they still hold. The main Kirkuk-Ceyhan pipeline, which Iraqi oil Minister Jabbar Al Luaihi wants to reopen, runs through Kurdish territory. Another deal on exports and revenue-sharing is possible, along with cooperation on refining and gas supplies. But if the Kurds want even to regain their autonomy, let alone dream of independence again, they need a sustainable, diversified economy, one that is not dependent on a few oil-wells that can so easily change hands. ■

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## HOW A NUCLEAR-POWERED FUTURE CAN AID ENVIRONMENTAL SAFETY

Robin Mills • *A version of this article appeared in The National, Oct. 29, '17*

On the snowy plains outside Idaho Falls in the north-western US sits a deliberately nondescript brick building. On December 20, 1951, power from its nuclear reactor lit a string of light-bulbs – the first nuclear-generated electricity in the world. Now researchers at the nearby Idaho National Laboratories, and in a chain of labs and companies across the country, are trying to kick off a new era of cheap, clean nuclear power.

Meanwhile, this Monday sees in Abu Dhabi the four-yearly ministerial gathering on the civilian nuclear power sector. The UAE's first nuclear power plant, at Barakah in the Western Region, is due to start operations next year, a major shift in the country's energy mix. Nuclear developers in the US were amazed, and envious, that the UAE could go from nothing to a functioning nuclear power plant within 10 years. Recent nuclear plants in the US, France and Finland have been bedevilled by delays, redesigns, regulatory and legal challenges, and environmentalist opposition.

Nuclear plants have longer construction times than renewable or gas power and must pay for fuel and, ultimately, waste disposal that hydroelectric, solar and wind energy facilities do not require. The overall cost per unit of electricity from Barakah is likely to be above that for a gas or coal-fired power plant, even at international fuel prices but, critically, it does not emit greenhouse gases during operation.

In a world that is moving far too slowly to tackle climate change, nuclear is proven, large-scale and low-carbon. The US department of energy has recently moved to offer subsidies to sustain existing nuclear (and, absurdly, coal) plants on trumped-up national security grounds. The far better justification for

keeping current nuclear power plants alive is to avoid carbon dioxide emissions. Despite Germany's much-touted "Energiewende" (energy transition) and expansion of renewable energy, its simultaneous decision to phase out nuclear power following Japan's 2011 Fukushima accident has meant its carbon dioxide emissions have not fallen since 2009.

Green groups are failing to take climate change seriously, instead refighting the battles of the 1970s. There is a legitimate environmental argument about whether to build new nuclear plants; there is no such case for prematurely shutting down safe existing reactors. But for new nuclear construction to take off, it will have to compete on economic grounds. Current designs are simply too expensive, particularly in the heavy regulatory climate of Europe and North America. Renewable energy – particularly solar and offshore wind power – has advanced dramatically in recent years and battery costs are also coming down. Natural gas is cheap, plants are quick to build and are beating nuclear and coal power in the US particularly.

The financing of the Barakah plant amounted to US\$24.4 billion, up somewhat from the initial \$20.4bn, for 5.6 gigawatts of capacity, or \$4.4 million per megawatt. For comparison, Dubai's recent solar thermal project, capable of generating electricity through night-time hours, was bid at \$5.5 million per megawatt. Solar photovoltaic plants are far cheaper per megawatt but, of course, generate only during sunny hours. Their annual output might be around 20 per cent of their notional capacity, compared to a nuclear power plant, which can exceed 90 per cent.

A new generation of entrepreneurs and engineers in the US, UK, South Korea, Japan and other countries is trying to realise advanced nuclear designs. These plants would be inherently safe, not requiring the cumbersome and costly cooling and containment systems of conventional pressurised-water reactors. Cheaper and quicker to build, some are capable of consuming nuclear waste. Some are small modular designs,

which could serve isolated communities or smaller markets, or provide heat and power for seawater desalination or industry.

Such advanced reactors include those such as that of the US' Transatomic and UK's Moltex, which are cooled not by water but by molten salts, under atmospheric pressure, and operating at higher temperatures and, so, more efficiently. The Bill Gates-backed Terrapower design burns depleted uranium, avoiding the need for enrichment and refuelling, and intends to build its first reactor in China. Nuscale, partly funded by the engineering major Fluor, is planning to complete a demonstration plant in Idaho by 2026 - a small, 50MW reactor buried underground.

A study published in July by the Energy Innovation Reform Project looked at the cost of these advanced designs. It concluded that, after construction of some initial units, costs could come down to as low as \$3.8m per megawatt on average, or \$2.1m per megawatt for the cheapest design. The resulting cost of electricity would be highly competitive with gas, coal or renewable energy with back-up. They still face major hurdles of technology, regulation and financing but, given the urgency of the climate emergency, they are worth a bet alongside renewables and other options.

The planet's trillion-dollar question is which system will be best at providing reliable, year-round, cheap, low-carbon energy? Will it be what most environmental groups are backing today: variable wind and solar energy paired with batteries; other storage and transcontinental power cables? Will it be gas, coal and biomass (wood-fired) plants that capture their carbon dioxide? Or will it be a new generation of nuclear power?

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## ARE FEARS OF A RISING THREAT OF A DISRUPTION TO OIL JUSTIFIED?

Robin Mills • *A version of this article appeared in The National, Oct. 15, '17*

Oil markets have been sanguine about geopolitical risk in recent years. At the peak of oil prices in 2008, observers ascribed as much as US\$10 to \$15 per barrel of the price to a "risk premium". Now, with Iraqi troops advancing on Kirkuk and the US president Donald Trump ceasing to certify the Iran nuclear deal, is it time for the risk premium to return?

Oil prices have risen significantly since their year-low of \$44.82 for Brent crude in June. In the week running up to the Kurdish vote, Brent gained \$3 to reach a 2017 high of \$59.02 on September 25 before falling back a little, closing at \$57.17 on Friday. Continuing adherence to the OPEC production cuts agreement has been supported by robust demand.

Most recently, geopolitical threats have returned: tensions over Kurdistan's independence referendum; and the prospect of a new US-Iran confrontation. It is rational to pay more for oil today if one fears the supply may be disrupted tomorrow - leading to a valuable asset such as a plane or a refinery lying idle. But are these fears justified?

The current price rises are not comparable in magnitude to those of 2008 or 2011-12, when there was actual, large-scale disruption to supplies from Libya and Iran. The market was already tight at those times, and Brent gained some \$25 per barrel in the months leading up to Colonel Gaddafi's overthrow.

Today, the market has been tightened only, in a sense artificially, by the OPEC and non-OPEC production cuts. Inventories have been coming down but OECD stocks remain 170 million barrels above the five-year average, itself inflated by three years of glut. The Kurdish stand-off remains concerning but the likelihood of a significant disruption to oil supplies is still limited. After Iraqi troops and Baghdad-backed militia advanced on Kurdish positions around the pivotal oil town of Kirkuk, both sides appear to have paused for consideration and negotiation. Turkey, with its own economic interests at stake, has not closed the pipeline carrying some 600,000 barrels per day of Kurdish-produced oil to the Mediterranean.

With the Joint Comprehensive Plan of Action (JCPOA) with Iran at risk, the Europeans, Russians and Chinese are not about to back the US in any new sanctions and so the direct impact on production or exports will be limited. If the US were able to cut off badly-needed new investment in Iranian oil-fields, output might drift down by about 150,000 barrels per day by the end of next year. Beyond largely unconnected incidents, are there any reasons to believe that threats of disruption to oil are systematically on the rise? Two can be advanced.

The first is the current dysfunction of US diplomacy, which is compounding and accelerating a longer-term trend of declining American global engagement and influence. Although an oil-man himself, the US secretary of state Rex Tillerson appears to have been out-manoeuvred by the ambassador to the UN Nikki Haley in the decision to de-certify the JCPOA. In a rare show of unanimity, the leaders of Germany, France and the UK, Chancellor Angela Merkel, President Emmanuel Macron and the Prime Minister Theresa May, issued a joint statement supporting it.

Mr Tillerson's letter to the Kurdish president Masoud Barzani, promising US support for talks with Baghdad, came too late or was not convincing enough to halt the referendum. And despite his long history with both Abu Dhabi and Doha, he has been unable to mediate an end to the Qatar dispute. The US is increasingly opposed in novel theatres both by old adversaries Russia and North Korea, and long-time allies, including Turkey and now even the EU.

The second is the persistence of low oil prices. This puts stress on oil-producing states, raising the likelihood of unrest in countries from Venezuela to Nigeria. This may erupt in other, unexpected places. Yet, unless the Iranian situation really spirals out of control, the likely impacts on production this time from any one hotspot are limited. It would take several events coinciding to add up to a major interruption. Imagine that Venezuela defaults on its debts and cannot pay for tankers and essential oilfield supplies. At the same time, fighting erupts again over the Libyan oilfields, Turkey closes the Kurdish oil pipeline, and new US sanctions on Iran deter but do not prevent crude buyers.

Each of these events might cut half a million barrels per day. The cumulative impact, 2 million barrels per day, is about equal to the planned OPEC and non-OPEC cuts. So OPEC and its adherents would have a choice. They could support the "market stability" they always profess by suspending their production cuts, which would be enough to offset most of the disruption. They - Saudi Arabia, in particular - would gain from higher volumes and still modestly increased prices. Or, they could try to maintain their production cuts, although Iraq in this case would be able to make



up the Kurdish loss while remaining compliant. Prices would be significantly higher, the drawdown of inventories would accelerate, but OPEC would yet again risk reviving shale oil producers and harming demand.

So far, the market reaction to these developments appears proportionate. The likelihood of serious disruption has risen but remains low; and OPEC could largely cover for losses. Not until the market fundamentals tighten further should we really worry.

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## RUSSIA AND SAUDI SEE MUTUAL GAINS THROUGH CLOSER TIES

Robin Mills • *A version of this article appeared in The National, Oct. 08, '17*

Relations between the two energy superpowers, Cold War opponents and more recently commercial and political rivals, have often been tepid. Now, with unprecedented OPEC cooperation and Russian involvement in the Middle East, both see benefits in deeper engagement.

Ahead of the visit, the two countries decided to set up a US\$1 billion joint energy fund, and Aramco signed five memorandums of understanding with Russian firms to cooperate in petrochemicals, drilling, oilfield services and, the two most significant, oil trading and gas. The deal with Litasco, the trading arm of Lukoil, could give Aramco access to Russian-owned refineries in the Mediterranean.

And the accord with Gazprom covers liquefied natural gas trade. Aramco has looked at importing LNG to replace domestic oil for power generation, but there is no particular reason to buy from Russia. And Saudi Arabia does not have an LNG industry of its own.

Russia's existing LNG facility in the far eastern island of Sakhalin mainly serves the East Asian market while its plant under construction on the Yamal Peninsula will use the "Northern Sea Route" through the melting Arctic to Asia.

The Russian energy minister Alexander Novak has raised the possibility that Aramco could invest in a second plant at Yamal, although Aramco has denied this. Gazprom, Rosneft and the trader Gunvor have sold third-party LNG to Egypt and elsewhere from their trading portfolios, but Saudi Arabia could equally tender for imports from any supplier.

In 2015, Saudi Arabia's Public Investment Fund had already agreed to invest \$10bn over five years in the Russia Direct Investment Fund. But even this relatively modest annual amount does not yet appear to have been met. Russia, as an exporter of gas and nuclear technology, has more to gain from selling to the Saudis than vice versa.

So these energy deals mostly look like the usual stuff of such bilateral summits, and their significance will depend on the commercial realities. Both countries are hydrocarbon exporters, both are short of capital given the slump in oil prices, both are trying with some difficulty to diversify their economies.

For each China makes a more natural trading partner.

More interesting is what this visit says about Russia's success in inserting itself into Middle East affairs. The Soviet Union's influence was largely expelled from the region during the 1970s, with the Saudis playing a leading role in backing pro-American forces.

But in recent years Russia has appeared as a military force in Syria in alliance with Iran and Bashar Al Assad, and a diplomatic player in the Iranian nuclear negotiations, in Libya's civil war and in Egypt. The Saudis may hope to influence Russia over Iran, but not detach it from Tehran.

In energy, the state firm Rosneft's loans have been crucial in reviving the Kurdish oil industry and setting up the autonomous region for last month's independence referendum. Russia has gained further influence over the Turkish gas market by agreeing to construct a pipeline from Kurdistan. Lukoil and Gazprom Neft are developing large projects in southern Iraq, while they, Lukoil and the overseas state investor Zarubezhneft have preliminary deals for oilfields in Iran. Rosneft has bought into Egypt's giant new Zohr gas field, and taken 49 percent of the Indian refiner Essar, against reported competition from Aramco. And Rosatom has a variety of deals at different stages to build nuclear power plants in Saudi Arabia itself, Iran, Turkey, Egypt and Jordan.

In the space of a few years, Russia's direct role in Middle East energy has gone from negligible to significant, although China has advanced even further, while western dominance has evaporated. Saudi Arabia's upstream sector is not open to foreign equity participation and so it cannot offer any carrots here. So far Russian oil companies have not entered projects in Abu Dhabi or Qatar, but they may be interested in the Qataris' planned LNG expansion.

Russia has been crucial in pressuring Iran to join the OPEC production limits agreement, and to roping together a motley crew of non-OPEC countries, including some former Soviet states, to complement it. Russia has gained in oil prices and influence without having to cut production very much. And while broadly supportive of extending the deal beyond March, it has yet to commit.

"Is there really anything in the world that's absolutely permanent?" answered the Russian president Vladimir Putin, when asked whether Saudi Arabia would always align geopolitically with the US.

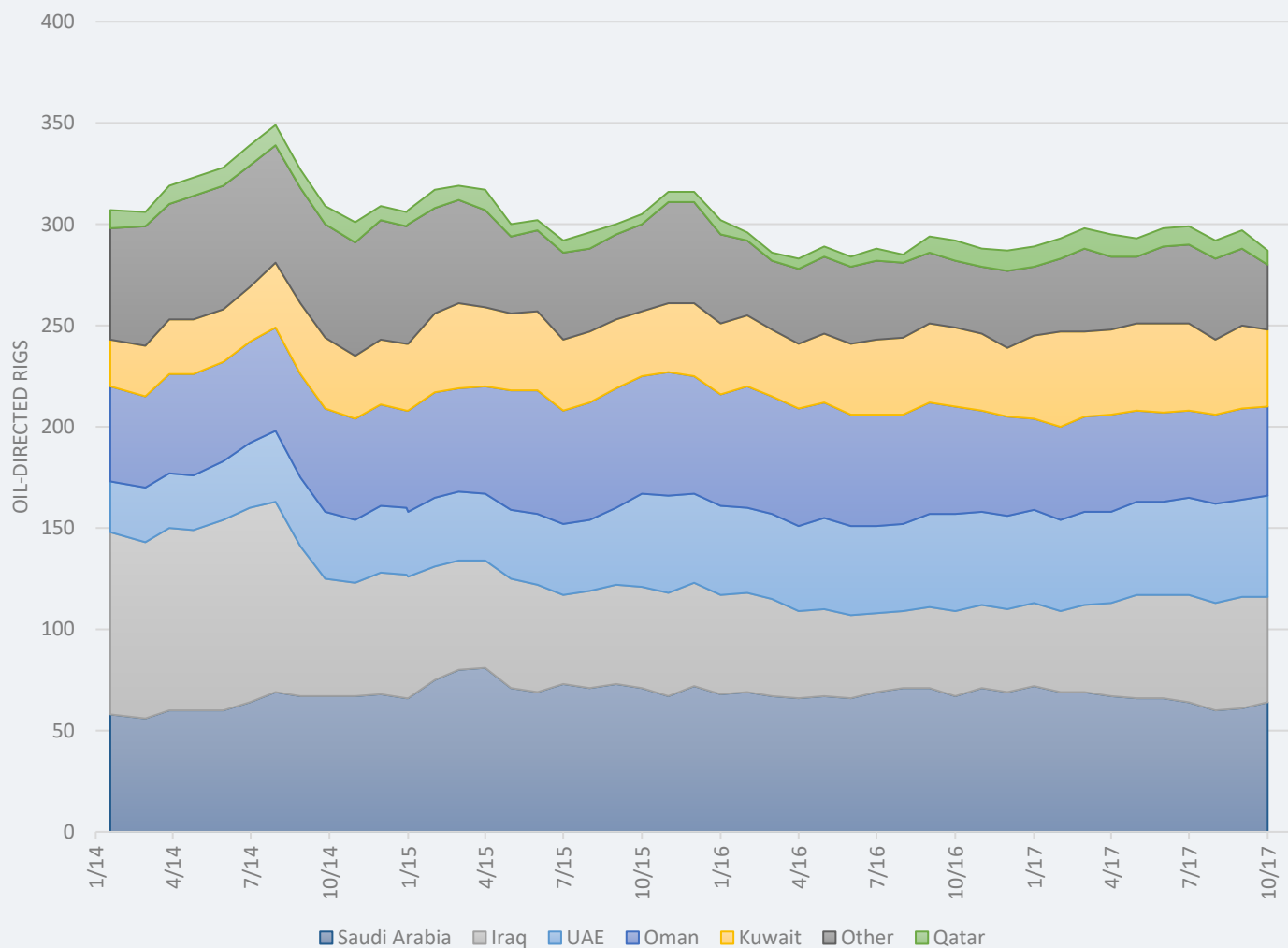
These Russo-Saudi discussions do not represent some dramatic reshaping of the region's alliances. But American Middle East policy has veered from undesirable to the GCC under the US President Obama, to incoherent under the current administration. Under any president, the natural trend of an overstretched, more isolationist and more energy self-sufficient US will be to focus limited diplomatic resources more on Asia.

There is still no other power that can replicate American military and political might in the Middle East. Just as they are trying to diversify their economies, so the regional countries are attempting to diversify their allies, gaining support on specific issues from Russia and, in future, from China and perhaps India or other outside players.

Russia can be useful to Saudi Arabia, but Moscow has more levers to pull than Riyadh.

# RIG COUNT SNAPSHOT: OIL

OCTOBER 2017

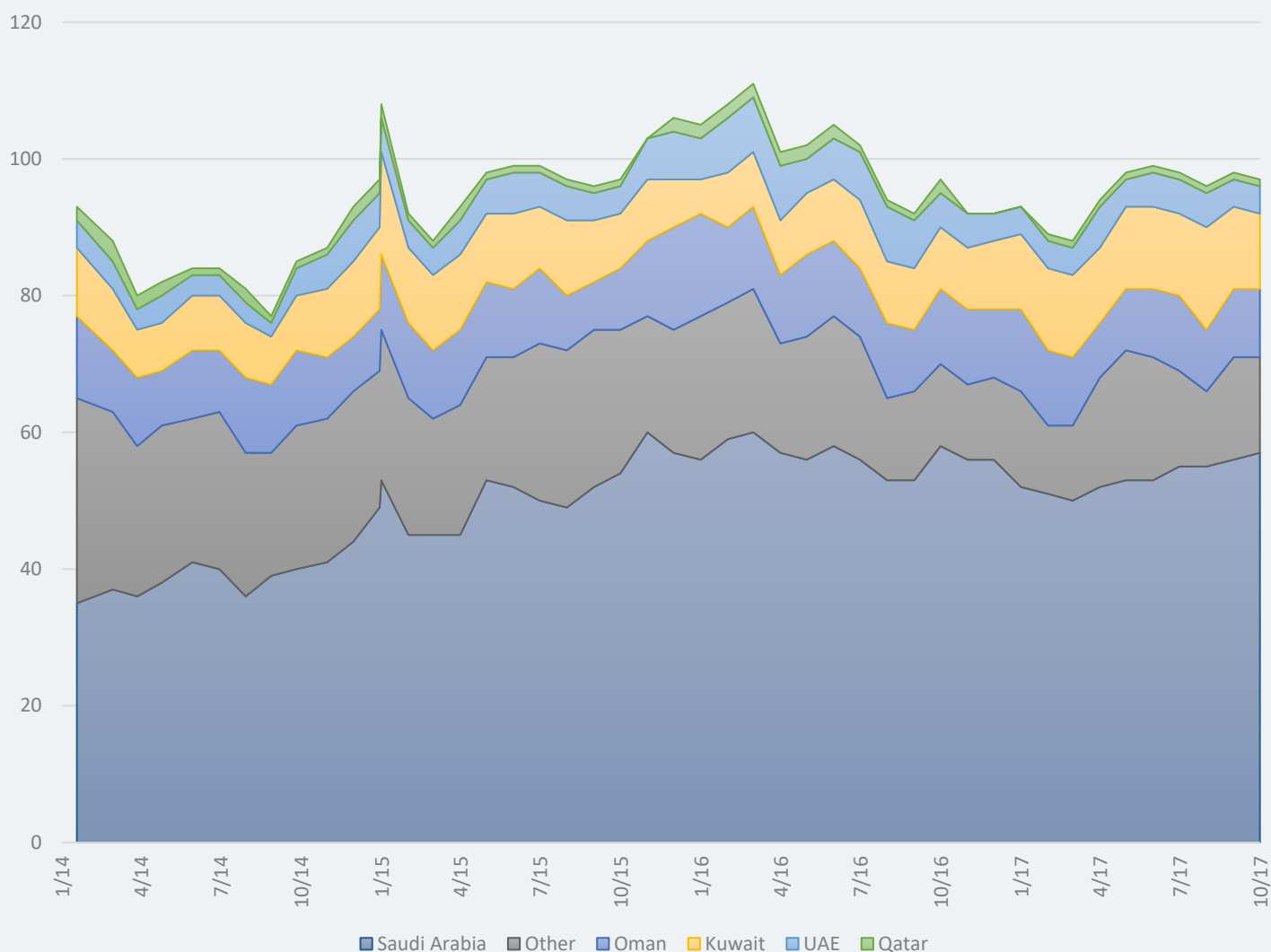


## Oil Rig Outlook for October, '17

- October witnessed an overall drop of -10 in oil rigs in the Middle East, excluding Iran.
- The UAE fell back by -1 in September, but gained by +2 in October.
- Iraq fell by -3 rigs in October, after having gained by +2 in September.
- Kuwait fell by -3 rigs in October, following an increase in rig count by +4 in September.
- Oman stayed relatively steady, falling back by -1 rigs in October.
- Qatar witnessed a fall in oil rigs by -2, after having remained unchanged since May.
- Saudi Arabia gained by +3 rigs in October, its highest count since July.

# RIG COUNT SNAPSHOT: GAS

OCTOBER 2017

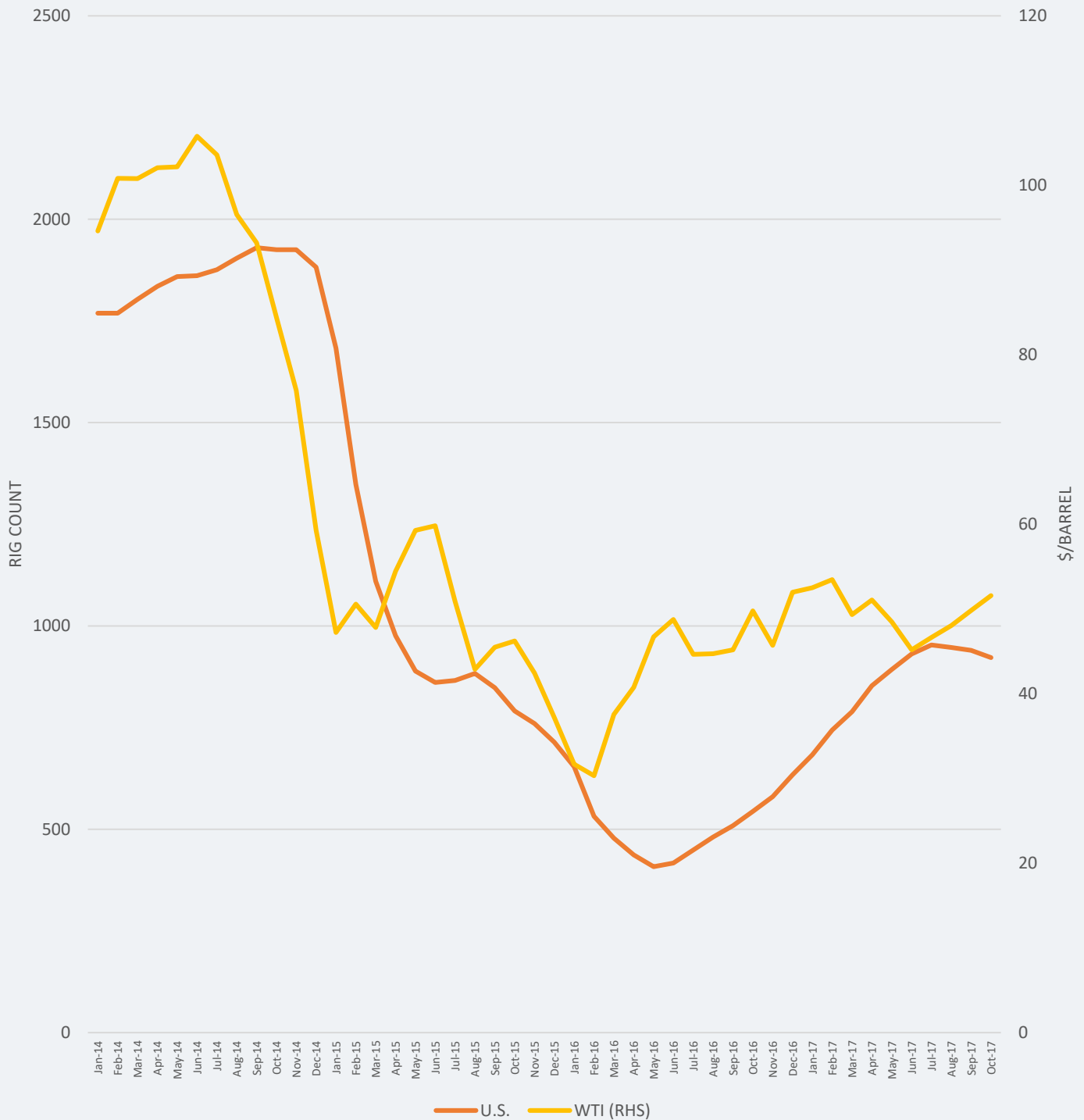


## Gas Rig Outlook for October, '17

- October witnessed an overall drop of -1 in gas rigs in the Middle East, excluding Iran.
- The UAE stayed steady, witnessing no increase or decrease in its gas rig count from September.
- Kuwait further fell by -1 rigs in October, following a decrease in rig count by -3 in September.
- Oman stayed relatively steady, and witnessed no increase or decrease in its gas rig count from September.
- Qatar stayed steady, witnessing no increase or decrease in its gas rig count since February.
- Saudi Arabia gained by +1 rigs in October, following a steady rise since April.

# RIGS VERSUS OIL PRICES: US RIGS & WTI

OCTOBER 2017



US rig count fell by -7 for September, after having witnessed a rise of +22 in July 2017.

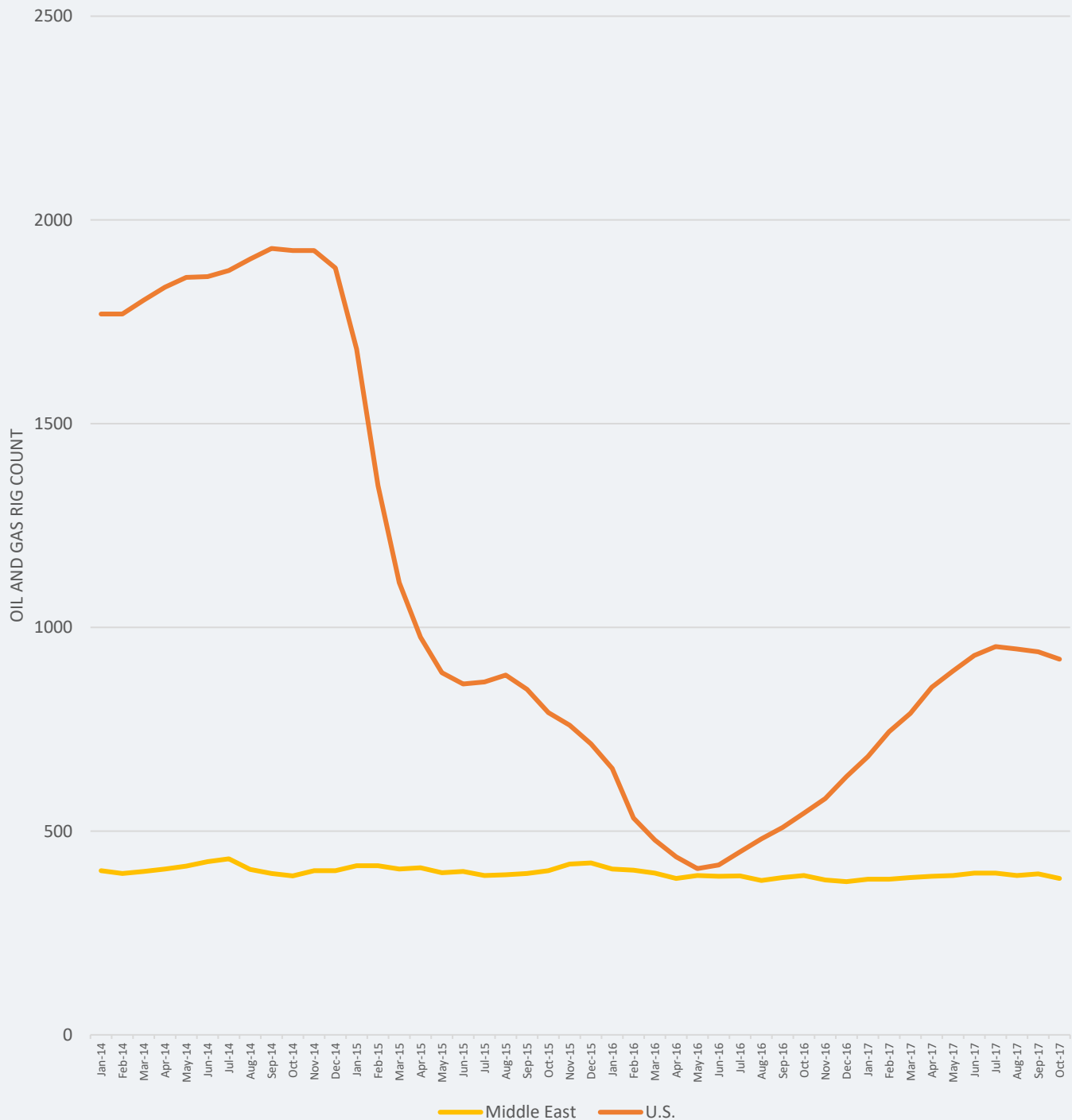
For October, rig count fell by an additional -18, a definitive drop after the year high of 953 rigs in July.

US rig count has been in decline since August due to producers trimming spending plans citing softer oil prices; however at 922, it's still much higher than 471 rigs last year.



## RIG COUNT: US & MIDDLE EAST

OCTOBER 2017



The Middle East's rig count stayed relatively steady from August to October 2017 despite higher OPEC cuts. The region's rig count has averaged at 390 for the last two years.

# FUEL PRICES & SUBSIDY REFORMS

OCTOBER 2017

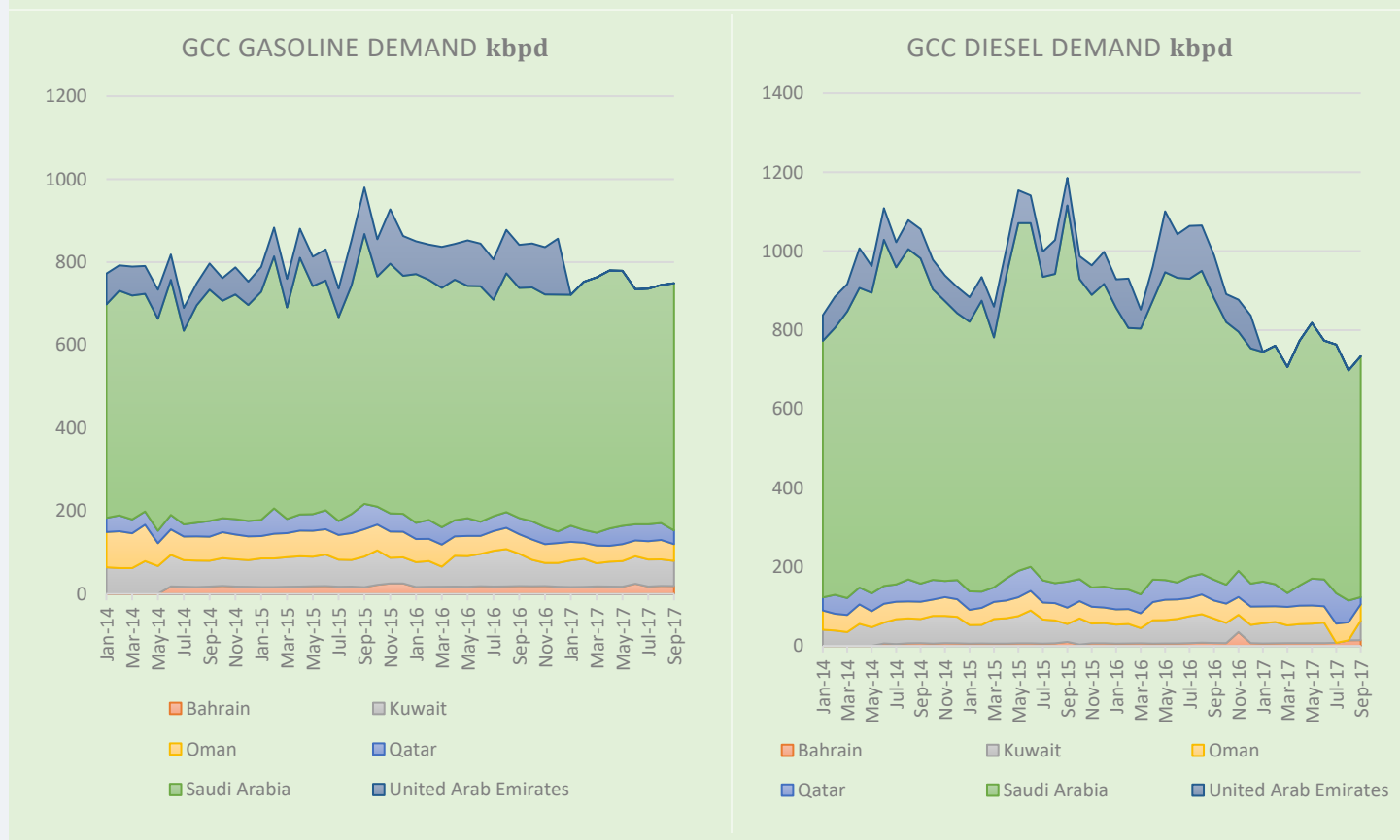
- The UAE was the first GCC country to remove fuel subsidies in August 2015. The other GCC countries – Saudi Arabia, Oman, Bahrain, Qatar and Kuwait – have reduced subsidies. The UAE and Oman set prices monthly based on market levels, while Qatar adjusts them monthly based on a discount to the market.

The following table represents the prices of gasoline and diesel (\$/litre) for October/November 2017 in the GCC countries.

GCC Country	PAST US \$ PER LITRE		CURRENT US \$ PER LITRE	
	Gasoline 95	Diesel	Gasoline 95	Diesel
Saudi Arabia	0.16	0.07	0.24	0.12
UAE	0.46	0.63	0.52	0.57
Qatar	0.27	0.27	0.46	0.43
Kuwait	0.27	0.42	0.35	0.36
Bahrain	0.21	0.36	0.42	0.37
Oman	0.46	0.39	0.52	0.55
US - PRE TAX	0.52	0.57	0.69*	0.59

Source: EIA, Qamar Energy

\*US Gasoline 95 values are calculated for Premium Grade.



**Note:** UAE figures for 2017 are not available

# IRAN'S GREAT OPENING

This is a **preview** of an article by **Robin Mills** for the **Petroleum Economist**, published on Oct. 31, '17. To view the full version, follow the **link** under the excerpt.



Iran's oil and gas upstream is a veritable Aladdin's cave of treasures. Like all fairy tales, of course, it comes with villains, both inside and out, and like many oil-rich peers, it has fallen well short of realising its potential.

On official figures, Iran has the world's largest gas reserves, 1,183 trillion cubic feet, and, at 158.4bn barrels, the second-largest conventional oil reserves behind only Saudi Arabia (even if Canada's and Venezuela's extra-heavy oil takes them ahead). Even if these figures, particularly the oil, are somewhat exaggerated, they suggest Iran could be the largest holder of hydrocarbons on the planet.

But production, though large, is not commensurate with reserves. After recovering rapidly from the export restrictions imposed by sanctions, Iran is struggling to boost oil output above its OPEC ceiling of 3.797m barrels a day. Gas output has risen rapidly in the past two years with the completion of long-delayed phases of its key South Pars field.

## **Full Article:**

['Iran's Great Opening' by Robin Mills for the Petroleum Economist, 31.10.2017](#)

# SAUDIS MUST NOW TEMPER EXPECTATIONS FOR ARAMCO'S IPO

This is a **preview** of an article by **Robin Mills** for **Bloomberg**, published on Nov. 8, '17. To view the full version, follow the **link** under the excerpt.



The Saudi crown prince, Mohammed bin Salman, known as MBS, used oil as his initial springboard from relative obscurity. In his first on-the-record interview, in January 2016, he proposed the initial public offering of the oil giant Saudi Aramco. Also that year, he stamped his authority on the energy and industrial sector by appointing his loyal associate Khalid al-Falih as oil

minister, with a broad portfolio. Now, as he pursues a remarkable purge of princes and other senior figures on corruption charges, oil is once again driving his vision.

Yet, the crackdown carries some risk: Even if the Aramco IPO goes ahead and investors look past the political upheaval, it will raise less than the hoped-for \$100 billion and more like \$65 billion.

A plan to reduce oil dependence in the long-term has created a greater need for petrodollars in the short-term, even as Saudi Arabia becomes more hawkish about oil prices. MBS is a man in a hurry. The war in Yemen, his plan to build a huge city of the future in the desert, the development of a nuclear power program, and investments in Uber, Softbank and other tech companies all require cash.

## **Full Article:**

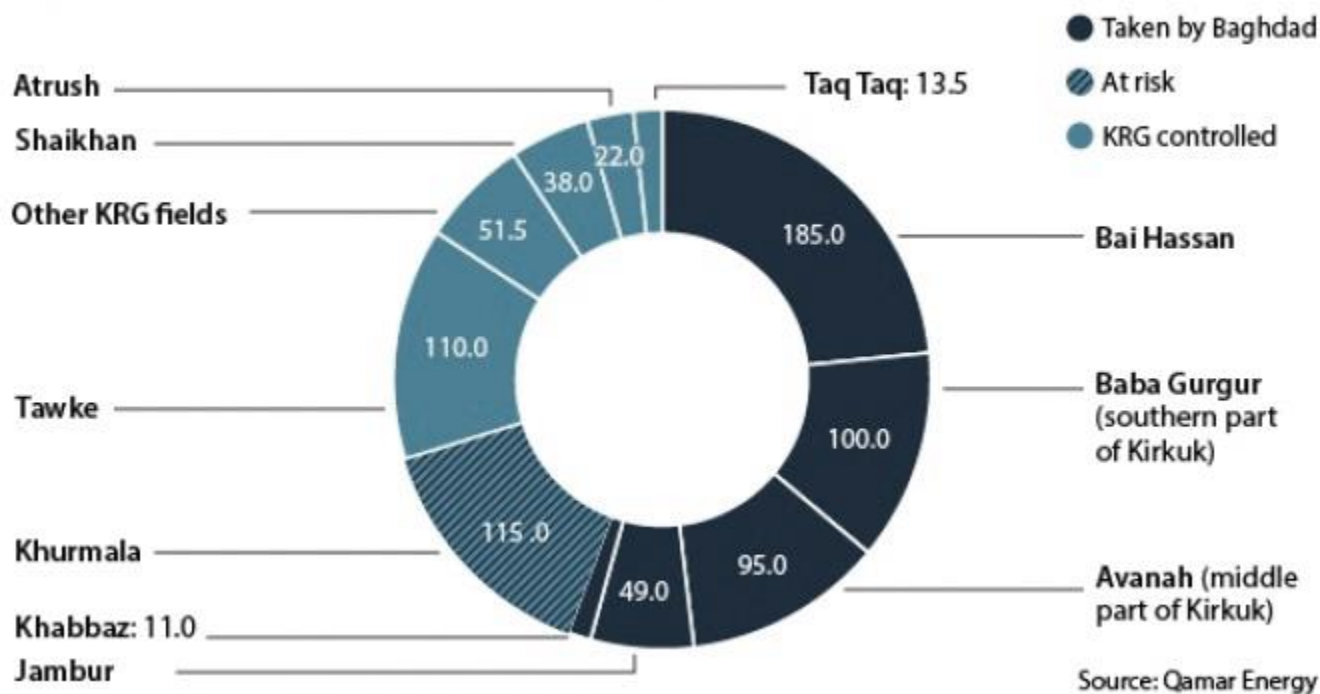
['Saudis must now temper expectations for Aramco's IPO' by Robin Mills for Bloomberg, 08.11.2017](#)

# OIL LOSSES COULD BANKRUPT THE IRAQI KURDS

Oxford Analytica Daily Brief • This report was authored by **Robin Mills** for **Oxford Analytica**, published on Oct. 31, '17

The fallout from the KRI's September 25 referendum will be devastating for the economy of the autonomous region, which is heavily oil-dependent. After losing most fields near Kirkuk (with another, Khurmala, still potentially under threat), the KRI will struggle to maintain production at current levels of 350,000 barrels per day. Control of Fish-Khabur could enable Baghdad to block Kurdish pipeline exports altogether, or set harsh conditions on their continuance. Expansion of gas production and exports, which had been looking more promising recently, will stall again. Even in the best-case scenario, revenues will be insufficient to cover public sector and military salaries, let alone debt payments to foreign oil companies.

**Iraq: Status of oil fields formerly controlled by the KRG (output=thousand b/d)**



Full report can be accessed [here](#).

## ROBIN MILLS SHORTLISTED FOR ENERGY EXECUTIVE OF THE YEAR AWARD

Robin Mills, CEO, Qamar Energy, was shortlisted for the **Petroleum Economist Energy Executive of the Year Award, 2017**



Full Petroleum Economist Awards Shortlist can be accessed [here](#)

# ARABIA MONITOR ENERGY • QAMAR ENERGY

## ARABIA MONITOR ENERGY

Oil and gas tensions in the Middle East continue to influence the volatility of the world's energy markets. Novel in endeavour, the Arabia Monitor Energy, a collaborative effort by Qamar Energy and Arabia Monitor, combines macroeconomics, geopolitics and energy intelligence to present a robust interpretation of the region's push-and-pull stimulus on the oil sector.

## WHAT SETS IT APART?

### 1. Inside OPEC

Focussed assessment of the month's OPEC developments, policy advancements and stratagem.

### 2. NOC & IOC Analyses

Examination of factors affecting NOC and IOC policies, and their impact on regional diversification schemes.

### 3. Spotlight this Month

Targeted reading of the geopolitical, macroeconomic and energy landscape of a MENA country utilising our specialised energy intel.

### 4. Scenarios to Watch

Detailed forecast of global oil developments and their impact on the risks and opportunities for MENA's oil production.

### 5. Strategic Implications

Concise summary of major oil trends and their effect on investment strategies under bearish, bullish, and wobble scenarios.

### 6. Outlook for the year

Cohesive outlook of the oil production, gas production, renewable energy projects, and geopolitics of key MENA countries.

## WHO BENEFITS?

### **Energy Traders:**

- What factors will contribute to oil and gas price fluctuations?
- What is the outlook for oil and gas pricing?
- What is the outlook for OPEC's production and export strategy?
- How are NOCs adapting their oil marketing strategies?

### **Investment and Risk Analysts:**

- What are the operational risks and investment opportunities in MENA? How do economics, politics, government policy changes, production and export bottlenecks, new oil and gas production, project economics and infrastructure challenges contribute to risk mitigation?

### **Upstream Firms:**

- What are the chief economic, political and energy policy factors driving/limiting upstream investment decisions and progress?
- What are the oil supply outlooks for the countries by project?

### **Downstream Firms:**

- What are the demand challenges, patterns, and trends for oil and oil products?

### **National Oil Companies:**

- What are the future oil and gas pricing trends?
- What developments will intensify or weaken demand gaps?
- What are IOCs' interests and drawbacks in operating in the country?

### **Alternate/Renewable Energy Organisations:**

- What are the challenges to renewable energy targets?
- What is the progress of major renewable energy projects?
- Are there opportunities for more entrants?



Further information can be availed by contacting us at [info@qamarenergy.com](mailto:info@qamarenergy.com), or  
+971 4 364 1232, Dubai, UAE



## THE DELIVERABLES

8 Monthlies	4 Quarterlies
Oil Price Scorecard	MENA Map as per Political Grouping
Headline Developments	Map of New Licensing Rounds
Spotlight this Month	Political & Regional Security Issues
Scenarios to Watch	Oil & Gas Prices Outlook
Projects in the News	Global Barriers to Oil & Gas Production
Macro Dashboard for Oil Exporters/Importers	Deep Dive into OPEC
Outlook for the year	Deep Dive into NOPEC
	MENA Energy Investments
	MENA Energy Fiscal Systems
	MENA Energy Upstream Bidding map
	MENA Economic Outlook
	Probability Scorecard for Bearish & Bullish Oil Supply/Demand
	Investor Implication Scenarios
	(Under 3 Oil Price Dynamics)

## SAMPLE WORK

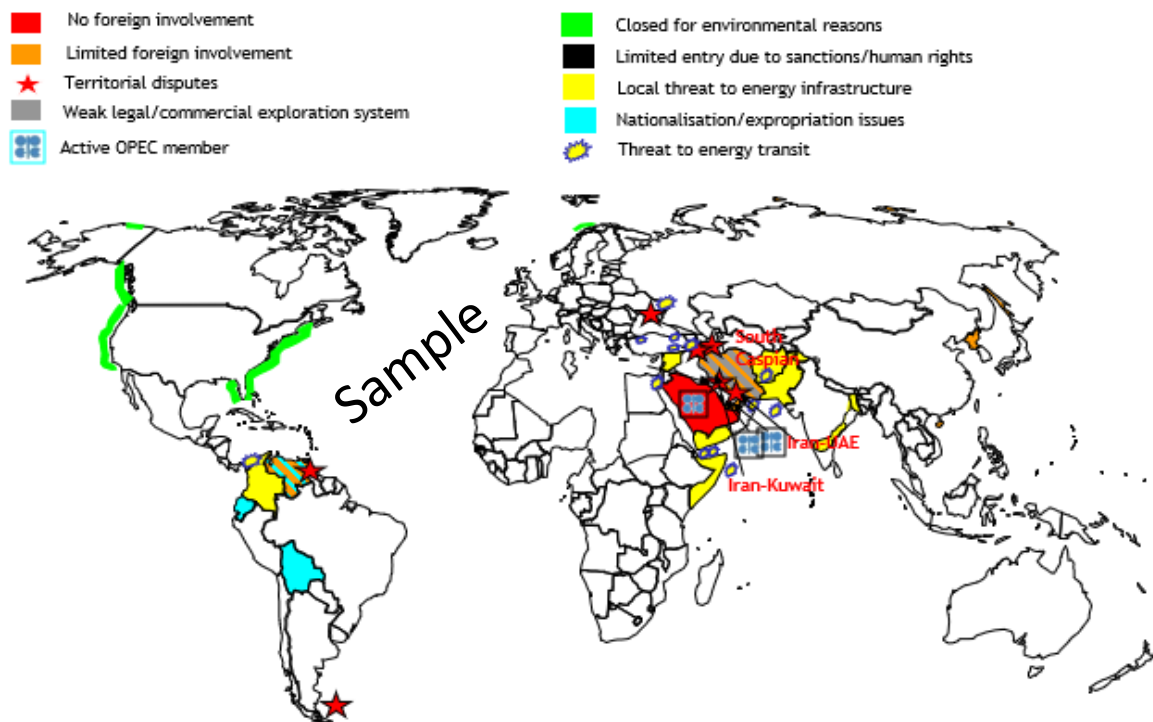
Example 1 – Reduction in OECD Inventory Scenarios (Mbpd)								
	Q1 17	Q2 17	Q3 17	Q4 17	Q1 18	Q2 18	Q3 18	Q4 18
Global Demand	95.60	96.20	97.50	97.90	96.9	97.6	98.9	99.3
Non-OPEC Supply + OPEC NGLs	64.10	63.50	63.70	64.70	65	64.9	64.9	65.7
"Call on OPEC"	31.50	32.70	33.80	33.20	31.90	32.70	34.00	33.60
Scenario 1	32.12	32.29	32.74	32.50				
Daily Stock Change	0.6	-0.4	-1.06	-0.7				
Quarterly	56	-37	-95.5	-63				
Cumulative	56	19	-76.6	-140				
Further drawdown required to reach target	-355	-318	-222	-159				
Scenario 2	32.12	32.29	32.74	32.50				
Daily Stock Change	0.6	-0.4	-1.06	-0.7				
Quarterly	56	-37	-95.5	-63				
Cumulative	56	19	-76.6	-140				
Further drawdown required to reach target	-355	-318	-222	-159				

Example 2 – Oil Price Scorecard Scenarios with Probabilities			
SUPPLY			
BEARISH		BULLISH	
Rapid return of Iran production <sup>1</sup> (x%)	Sample	Iran reaches maximum output (x%)	Iran struggles to increase output with limited investments; Possibility of Iran reaching maximum output of ~3.8 Mbpd into 2018.
Increase in Iraq production (x%)	Plans of increasing production to 5 Mbpd by 2018. This aim is not unrealistic, but could pose	Drilled but uncompleted wells in US shale surge (x%)	Sample



	opposition from other OPEC members. Likely after March 2018.		
Non-OPEC production decline (x%)		Underinvestment (x%)	
Libya and Nigeria security improvement & political reconciliation (x%)	Sample	A rise in long-term US interest rates in December 2017 (x%)	Sample
Rising US production, faster than predictions (x%)		Unsustainable oil demand to hit US shale oil service providers (x%)	
OPEC production returns (x%)		OPEC limits oil exports into 2018 (x%)	

### Example 3 – Global Barriers to Oil & Gas Exploration/Production



### Example 4 – Scenarios to Watch

#### Renewed Oil Crisis

**Timing:** 2021

**Event:** Rising demand and global production hampered by years of underinvestment, collide with a sudden crisis in a major oil-exporting country. Oil prices soar to over \$120 per barrel, threatening Asian economies. China calls on its GCC partners to support it preferentially, while India, Japan and South Korea also claim their special relationships.

**Mitigation:** Realizing that this is a time of a restive Middle East, Asian countries, particularly China, are already keeping their guards up at a time of low prices. Chinese investors are discussing with Aramco the potential of becoming a large investor in the IPO if they would be the number one priority for the Kingdom in case of an emergency. The US is the world's largest holder of emergency crude stockpiles, but now it is selling off reserves, while China, the second-largest, is taking advantage of low crude oil prices to fill storage and even bought oil from the US strategic reserve. Also, the GCC countries are investing in new (UAE in India) and expanding existing storage tank capacity in Asia (Saudi Arabia in Japan) to store crude for Asian exports, but giving priority to the Asian host country in case of an emergency.

**Impact:** A higher oil price would be most beneficial to the MENA exporting countries as they would enjoy higher revenues at the expense of the MENA importing countries. If a major supply cut occurs from a major exporting country that used to export significant amounts to Asia, the Asian countries will respond by meeting with other major exporters in the region to replace the lost amounts

with promise of increased investments in the country, the exporting countries would cut Asian crude grade prices to gain market share and Asian countries will also try to lessen dependence on the Middle East with higher exports possibly from Russia or US.

**Scenario Probability:** 30%

#### Alternative Futures

1) 40%: No sudden crisis in a major oil-exporting country occurs

2) 20%: The loss of supply from one major oil exporting country is made up with new supplies from other countries (revival of Libya, Nigeria, Venezuela, and higher exports from Iran and Iraq).

4) 10%: The Asian countries would not be significantly affected as they would have already lessened dependence on Middle East with higher imports from US shale or Russia

#### Example 5 – Geopolitical analysis

##### Country Politics/Geopolitics

<b>Iran</b>	<ul style="list-style-type: none"> <li>After President Trump refused to certify the Iran nuclear deal, Congress must now decide whether to remain party to the deal or impose sanctions and void it. In this worst-case scenario, reinstating sanctions would put the US in breach of the Iran deal and could lead to the unraveling of the agreement. The best-case scenario sees Congress amending the INARA legislation so that it includes specific “trigger points” related to unacceptable Iranian nuclear- and missile-related activities. If Iran were to carry out any of these activities, it would automatically trigger the reimposition of sanctions. In the baseline scenario, Congress could do nothing and wait for the next opportunity for Trump to certify in 90 days.</li> </ul>
<b>Lebanon</b>	<ul style="list-style-type: none"> <li>The resignation of Saad Al Hariri over an alleged assassination plot will further hold up award of Lebanon’s first offshore exploration blocks</li> </ul>

#### Example 6 – Outlook for the Year

	Oil	Gas	Alternative energy	Politics / Geopolitics
<b>Algeria</b>	<ul style="list-style-type: none"> <li>Production decline continues.</li> <li>Start-up of Eni’s Central Area Field Complex on Block 405b with peak production of 40 kbpd expected this year.</li> </ul>	<ul style="list-style-type: none"> <li>Stagnant production and rising domestic consumption cuts exports.</li> <li>Sonatrach to offer more short-term and flexible LNG contract.</li> <li>Start of Touat, Reggane Nord and Timimoun gas fields in 2017.</li> <li>Discussions restarting on shale gas exploration. Government putting production figure up to 80 BCM/yr by 2025 (on top of their conventional production), but no progress on shale gas drilling expected this year.</li> </ul>	<ul style="list-style-type: none"> <li>Slow and intermittent process.</li> <li>The majority of gas supply goes to electricity sector and likely further inflated by subsidies -- leading to aggressive renewables and efficiency programs.</li> <li>Challenging target of additional 22 GW by 2030-40.</li> </ul>	<ul style="list-style-type: none"> <li>Increasing unrest and economic stress met with handouts &amp; repression.</li> <li>Minister of Oil Bouterfa replaced on 25<sup>th</sup> May by Mustapha Guitouni, along with most other ministers; Guitouni, previously Sonelgaz CEO, a technocrat with good relations with the new PM, will bow to the president’s office on oil matters.</li> </ul>


# OPEC WATCH

AVERAGE CRUDE PRODUCTION FOR OCTOBER 2017

## 32.59 mb/d

### NON-OPEC OIL SUPPLY

57.65 mb/d

 + 0.31 mb/d  
from Sept. '17

151 kbpd

From September 2017

### **Crude Output**

Saudi Arabia  
Libya  
Angola



### LATEST ORGANISATIONAL CHANGES

- Creation of the Joint Technical Committee (JTC) to monitor adherence to the OPEC/NOPEC deal.
- Saudi Arabia elected as President for 2017.
- Equatorial Guinea joined OPEC as the 14th member. The country produced 157 kbpd in July.
- Indonesia is open to re-joining OPEC, but only if it can determine its own production levels. No decision has been made on its membership yet.

### Non-OPEC (NOPEC) SUPPORT

- Non-OPEC cuts reached **105%** in October. Non-OPEC reached more than 100% of cuts due to higher Russian and Mexican cuts in the last 3 months.
- Mexico, Brunei and Sudan were the only three non-OPEC countries that complied with OPEC's cuts 100%.
- Russia and Saudi Arabia looking to extend OPEC deal past March 2018 to the whole of 2018; willing to take matters to the highest level of government if compliance is not maintained. Russian oil companies not impressed with government's support for extended cuts.
- Russia's production expected to decline by 0.01 mb/d to average 11.03 mb/d in 2018.
- Russian production increased by 0.02 mb/d in October; oil field maintenance was mostly all completed by September end.
- Uzbekistan has confirmed its attendance at the 173rd OPEC meeting to be held on the 30<sup>th</sup> of November at Vienna.

### PRODUCTION LIMITS

- While Nigeria and Libya are exempt from the OPEC deal, OPEC compliance for October 2017 stood at **92%**. Other sources believe that compliance is in fact above 100%.
- Output from OPEC countries fell from September 2017 to average at 32.59 mb/d in October.
- Libya's production increased by 42.3 kbpd to average 962 kbpd in October.
- Angola witnessed its highest production levels in October, increasing by 69.8 kbpd to average 1,117,000 barrels per day.
- Saudi Arabia's production levels increased by 16.9 kbpd, while having maintained the highest level of compliance at 106%.
- October witnessed both OPEC-NOPEC collectively honouring OPEC cuts.
- Iraq has been increasing production and crude exports as Venezuela's output has declined significantly, and is now at 1.863 kbpd, the lowest in 28 years.

### NEXT OPEC MEETING: 30.11.2017

173<sup>rd</sup> (Ordinary) OPEC Meeting in Vienna, Austria

# KEY MENA ENERGY SCORECARD

OCTOBER 2017

## QATAR CRISIS

Qatar says it is ready for a compromise; US Department of Treasury imposed sanctions on eight individuals and one business in Qatar suspected of financing, facilitating and arming al-Qaeda; Qatar crude oil and product revenues surged by 27% in Q3 despite embargo; Qatari shipping conglomerate Qatar Navigation launching direct service between Qatar and Karachi (Pakistan) (to counter sanctions); Bahrain to take legal action against Qatar's alleged role in supporting radical groups in the country; UK orders of LNG from Qatar continue as scheduled despite GCC blockade; Qatar set to continue supplying the UAE with natural gas through the Dolphin gas pipeline.

## MENA ENERGY PRICE REFORM

UAE fuel prices down for November 2017 following enthusiasm over OPEC's deal extension; Saudi Arabia to raise domestic gasoline and jet fuel prices by 80% (initially November 2017, but delayed till next year looks most likely; 5% VAT on gasoline in January 2018); Oman's Sultan Qaboos has authorized distribution of \$250 million to low-income population affected by increased fuel prices; Kuwait to impose new energy tariffs on public sector.

## MENA NUCLEAR POWER

China National Nuclear Corp signed MOU with Saudi Geological Survey to promote existing cooperation in nuclear energy and uranium exploration; Abu Dhabi's Barakah nuclear plant: construction of four units almost complete (72% complete<sup>1</sup>), first unit expected by 2018; Rosatom to start construction on Turkey's Akkuyu nuclear plant in 2018; Egypt plans to sign contract with Rosatom (Russia) on Dabba nuclear power plant by end-2017; Jordan's nuclear power plant (Amra), also with Rosatom to be completed by 2022 though this is very over-ambitious.

## MENA ALTERNATIVE ENERGY

DEWA (Dubai) awards 700 MW expanded solar CSP project at world record 7.3 c/kWh for the 4<sup>th</sup> phase of the Mohammed bin Rashid al Maktoum Solar Park; Geothermal energy potential being researched by UAE in Al Ain and Ras Al Khaimah; Prince Salman says Saudi's Neom Economic Zone to contribute \$100bn to GDP by 2030 and will be fully powered by solar and wind; Egypt secured \$653-million debt package for 13 solar power projects developing total capacity 752 MW near Aswan; UAE's Masdar signs EPC contract to build 50 MW wind power project in Oman, first large scale wind farm in GCC.

No Change ↔ ● Very Positive  
Deterioration in the last month ↓ ● Positive  
Improvement in the last month ↑ ● Negative  
● Very Negative

# KEY MENA ENERGY SCORECARD

OCTOBER 2017

## REGIONAL ENERGY REFORM

Egypt increased cost of drinking water up to 50% for all consumers; Egypt introduced sweeping economic reforms last year as part of three-year \$12 billion IMF loan program; Egypt also raised electricity prices up to 42% and fuel prices up to 50% this fiscal year to meet terms of IMF loan; Saudi ARAMCO shuts down 80 kbpd refinery in Jeddah, will convert into oil products distribution hub.



## ENERGY INFRASTRUCTURE SECURITY

Majid-al-Tamimi says Kurdistan's name to be changed in Iraq's 2018 budget charts to 'Northern Provinces', puts doubts over future of KRG's contracts with IOCs, most importantly Russia's Rosneft; Armed seizures are derailing Libya's oil production recovery plans; Mustafa Sanallah, NOC Chairman, has called for criminal charges to be pressed against militias blocking oil production.



## KUWAIT DEVELOPMENTS

Saipem wins \$850m onshore E&C contract in Kuwait relating to the Al Zour refinery in Kuwait; Kuwait has given green light to issue tender to build phase 1 of Jurassic gas facility; Kuwait plans tender for 1 GW solar PV project –tender for \$1.2 billion Dibdibah solar power plant will be issued in 1Q2018, as Kuwait aims to source 15% of electricity from renewable energy by 2030.



## IRAN DEVELOPMENTS

Iran production decreased 11.3 kbpd in October from previous month due to production setbacks from South Pars which also impacted crude and condensate exports for the past 2 months, but maintenance operations now completed; Foreign investors have filed proposals for total \$3.6 billion to develop renewable energy projects in Iran - Iran's government targeting installation of more than 5GW renewable capacity by 2022 (includes 4,500 MW of wind power and 500 MW of solar power); Iran estimates exports of piped gas to Iraq will reach 490 mcf/d by March 2018.



## ABU DHABI DEVELOPMENTS

ADNOC Distribution confirms 10% IPO on Abu Dhabi Securities Exchange; ADNOC and CNPC sign agreement to develop Abu Dhabi's offshore and sour gas ventures; ADNOC planned to cut October oil supply by 10%, but OPEC's October monthly report puts cuts at 0.21% from previous month; Abu Dhabi street lights (> 350,000) to be replaced by LEDs; Abu Dhabi's Masdar along with GE and Spain TSK to build Oman's wind farm powering 16,000 homes.



No Change ⇄ ● Very Positive  
Deterioration in the last month ⇓ ● Positive  
Improvement in the last month ⇑ ● Negative  
● Very Negative

# KEY MENA ENERGY SCORECARD

OCTOBER 2017

## MENA UNCONVENTIONAL OIL & GAS

Algeria considering shale gas, aiming to add unconventional gas production of 80 BCM to total output by 2025; Saudi Arabia estimates around 16.9 TCM (600 Tcf), earmarked \$7 billion for unconventional gas; Saudi Aramco said in its 2016 annual report wells in northern KSA complete, aiming to deliver 55 mcf/d of gas by end-2017; Shell partnering with Egypt to assess tight oil and gas potential in the country.



## EAST MEDITERRANEAN GAS COMMERCIALISATION

Egypt signs three oil and gas exploration deals for 16 new fields in the Western Desert worth at least \$81.4 million in total in August with Shell and Apex International Energy; Egypt speeding up negotiations with neighbouring countries to finalize demarcation of borders in the Mediterranean (for offshore discoveries); Shell considering selling Egyptian market Israeli gas from Leviathan field; EastMed pipeline will be focus of four-party ministerial meeting on December 5th, in Nicosia, during which MOU expected to be signed. Total active in East Mediterranean, and has teamed-up with Italian firm Eni to drill a well offshore Cyprus; ENI, Total and Novatek won bids for Blocks 4 & 9 offshore Lebanon; resignation of Prime Minister Hariri could delay passage of oil legislation



## IRAQI KURDISTAN DEVELOPMENTS

25 September Kurdish independence referendum in tatters; Masoud Barzani resigns after the referendum triggered a regional crisis; Iraq captured major oil fields producing around 280 kbpd in northern Kirkuk; Baghdad asked BP to ramp up output from Kirkuk to 700 kbpd, but BP said it will consider it once political hurdles ease; Rosneft to take 60% control of Iraqi Kurdish pipeline; Chevron stopped operations in two blocks: Sarta and Qara Dag.



## FEDERAL IRAQ DEVELOPMENTS

UK Export Finance providing \$117 million to Enka UK and GE to deliver power projects in Iraq – firms will use financing for construction of two 150 MW gas-fired power plants at Dhi Qar and Samawa; Gazprom Neft begins production of LPG at its Basra field in Wasit Province; Iraqi volume of crude oil has rebounded in October, with US importing 1m b/d in the week ending 20 October; Saudi Arabia and Iraq have formed the Saudi-Iraq Coordination Council (SICC); the Abu Dhabi National Energy Company, TAQA and Saudi state-owned petrochemicals giant SABIC will reopen offices in Iraq.



No Change ↔ Very Positive  
Deterioration in the last month ↘ Positive  
Improvement in the last month ↗ Negative  
Very Negative





## ABOUT US

Qamar Energy provides leading-edge strategy, commercial and economic consulting across the energy spectrum to governments, international oil companies (IOCs), national oil companies (NOCs), investors, and oil traders.

### ROBIN MILLS • CEO

Robin is an expert on Middle East energy strategy and economics, described by Foreign Policy as "one of the energy world's great minds". He is the author of two books, *The Myth of the Oil Crisis* and *Capturing Carbon*, columnist on energy and environmental issues for Bloomberg and The National, and comments widely on energy issues in the media, including the Financial Times, Foreign Policy, Atlantic, CNN, BBC, Sky News and others. He is a Senior Fellow with the Iraq Energy Institute. He holds a first-class degree in Geology from the University of Cambridge, and speaks five languages including Farsi and Arabic.

### RECENT APPEARANCES & TALKS



**Huawei Global Energy Summit 2017, Abu Dhabi • Presentation on Energy Meets Digital Transformations**

**Euro Money MENA Asset Management & Trading Summit, Dubai • Presentation on MENA Energy Landscape**

**Upcoming: 8<sup>th</sup> Bosphorus Summit, Istanbul • Presentation on Gas: A Bridge or a Destination Fuel?**

### QAMAR NEWSLETTER ARCHIVES

[May 2017](#) • [June 2017](#) • [July 2017](#) • [August 2017](#)



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