Photo courtesy of Japan Times. Iran's Foreign Minister Mohammad Javad Zarif with Japanese Fumio Kishida on discussion of nuclear safety initiatives

WOULD IT BE EASY FOR TRUMP TO RE-IMPOSE SANCTIONS ON IRAN? WE DON'T THINK SO

Qamar Energy

December 2016

Reimposing sanctions on Iran would be difficult for the US

By Robin Mills

A ***version of this article appeared in The National newspaper on December 3, 2016***

'The worst deal ever negotiated", president-elect Donald Trump called it. Mike Pompeo, chosen by Mr Trump to head the CIA, tweeted: "I look forward to rolling back this disastrous deal". The incoming administration has the nuclear accord with Iran in its crosshairs – putting a million barrels per day of oil exports in jeopardy again.

The agreement between Iran, the US and other leading nations came into operation at the start of this year. Iranian oil production has bounced back and the country has begun opening up its energy industry to international investment. The nuclear deal, and consequent economic revival, have been the core achievements of Hassan Rouhani, the president, who himself faces a presidential election in May.

The accord's opponents in Washington have been happy to use it as a weapon against president Barack Obama, confusing two separate issues to complain that it has encouraged Iran's regional adventurism.

But tearing up the deal is not so easy. Its "snapback" provision allows sanctions to be reimposed should a majority of the joint commission supervising the deal find that Iran is not complying. This commission comprises the five UN Security Council permanent members – the US, Russia, China, the UK and France – plus Iran, Germany and the EU. So without the support of the European members, it is essentially impossible for the US to revive UN sanctions.

The US could, of course, act unilaterally, depending on its dominance of the global financial system to scare off financial institutions and companies from doing business in Iran, and coercing countries to stop buying Iranian crude. Those tactics helped to construct a very effective sanctions regime that cut Iran's oil exports to less than half of normal levels during 2013-15.

But a more hostile international environment, worries over Mr Trump's loose cannon approach to diplomacy and a more confrontational and chaotic team than Mr Obama's dedicated diplomats, make it a hard trick to repeat.

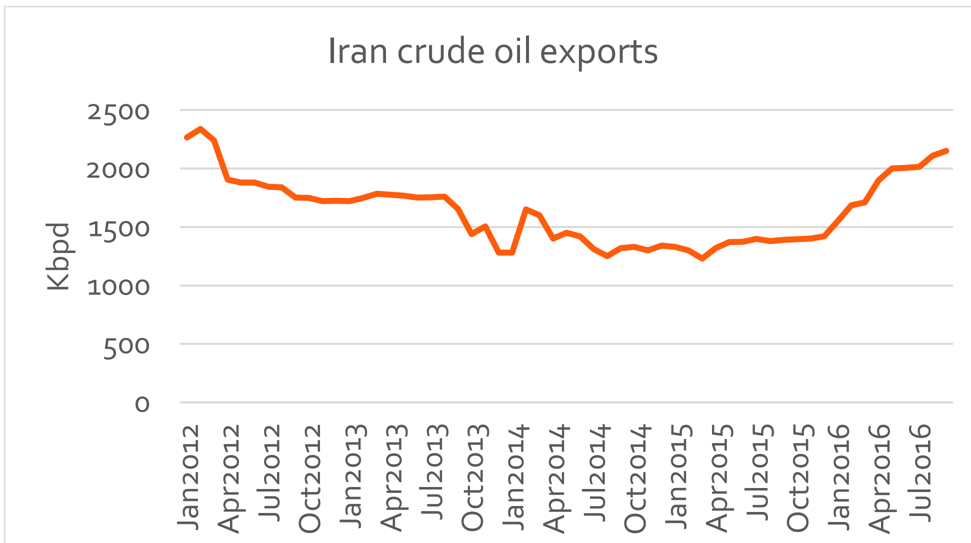
The Europeans, Chinese and Russians all want to do business in Iran. On the very day of the US election, French supermajor Total cleverly partnered with China National Petroleum Corporation to sign a preliminary agreement for Phase 11 of the giant South Pars gasfield. As it did with the 1990s vintage of the US embargo, the EU would offer shelter for its companies, even forbidding them from complying with sanctions. Iran can be expected to hurry to sign more contracts before Mr Trump enters the White House, to line up more diplomatic cover.

Russia is, of course, still under US and EU sanctions imposed over its annexation of Crimea. China is increasing its independence from the American financial system, with the establishment of the Asian Infrastructure Investment Bank and a free-trade zone with South-East Asia, replacing the moribund US-led Trans-Pacific Partnership. So both countries would gain from undermining the American ability to weaponise extraterritorial sanctions.

As a halfway step, the US might be tempted to be less cooperative in delivering on its side of the deal, quietly dissuading banks from dealing with Tehran, pushing back hard against minor technical Iranian infractions of the deal and enforcing sanctions on non-nuclear issues such as human rights and ballistic missile development. This would discredit Mr Rouhani's pragmatic approach and empower regime hardliners.

The aim would be to goad Iran into violating or renouncing the agreement, and restarting its nuclear enrichment. Ultimately that might be a casus belli for US military action, further destabilising the region and placing Mr Trump in opposition to Vladimir Putin, the Russian president, for whom he has expressed admiration.

Tearing up the deal would reverse oil oversupply, make OPEC's task of production cuts easier and bring some relief to Mr Trump's supporters in the Texan oil patch. But fractious diplomacy and the dangers of further Middle East conflict point the other way. Campaign trail soundbites are no substitute for realistic policies.



Source: JODI

- New crude oil exports planning to come on-stream:
  - Small European markets: Hungary, Bosnia, Herzegovina
  - Egypt
- Currently, the majority of Iran's exports reach China, India, Japan, South Korea and Turkey
- The budget for 2017 fiscal year proposes a $50/barrel crude oil price thus increased revenues for Iran
- Japan offered Iran $2.2 million for nuclear safety initiatives to implement the nuclear deal which came after elect Trump's scrutiny on the deal

OPEC and Rosneft deals hint at rising Russian influence

By Robin Mills

As in the political sphere, so in energy. With two recent deals, today's Russia has influence in the Middle East that the former Soviet Union did not have since the 1960s.

A fundamentally weak state has preyed on the indecision and miscalculations of its opponents.

The first success came on November 30, as Russia cajoled and corralled members of OPEC to conclude a deal on limiting production.

President Vladimir Putin reportedly met Prince Mohammed bin Salman, Saudi Arabia's deputy crown prince, and phoned Hassan Rouhani, the Iranian president, to reach an agreement.

Further consensus was reached on Saturday for non-OPEC nations to join the production cut. Perhaps with some encouragement from the Kremlin, Azerbaijan volunteered a 35,000 barrel per day (bpd) drop and Kazakhstan, 20,000 bpd.

The Russian economy has been badly hit by the downturn in oil prices and the imposition of sanctions. The collapse of the rouble may have cost ordinary Russians their beach holidays in Ras Al Khaimah but it has cushioned much of the blow to the country's budget and oil industry.

As after the last currency collapse in 1998, Russian oil production has become highly cost-competitive.

According to the International Energy Agency, Russian production was set to increase by 200,000 bpd to 11.48 million bpd next year, the world's highest, larger than Saudi Arabia, which has to cut output by 4.6 per cent.

This has given Alexander Novak, the energy minister, the room to promise a freeze, equivalent in his view to OPEC's production cuts. By cutting theoretical barrels, Russia gains revenues on every actual barrel and bails out its leaky economy.

The second success was sealed on Wednesday. The state oil giant Rosneft, headed by close Putin ally Igor Sechin, has built up a large debt burden by acquiring TNK-BP for US$55 billion in 2013, midsized Russian producer Bashneft for $5.2bn and 49 per cent of Indian refiner Essar for $6.5bn in October.

To cut its budget deficit, Russia needed to sell a 19.5 per cent stake in Rosneft before the end of the year.

Now trader Glencore and the Qatar Investment Authority (QIA) have teamed up to buy the shares for €10.2bn (Dh39.5bn), of which they are putting up only €300 million equity each.

There is clearly more to this deal than meets the eye. The Italian bank Intesa Sanpaolo, funding the deal, is relatively small and must be laying off much of the financing to other institutions.

It is clear what Glencore gets for its investment – an additional 220,000 bpd of Rosneft crude to trade, strengthening its position against rival Trafigura.

QIA's benefit, beyond the purely financial, is less obvious. It seems inconceivable that any bank would lend up to 95 per cent of the price, secured only by Rosneft stock, so although the loan is said to be "non-recourse", it must be hedged or guaranteed in some way.

The US government is examining the Rosneft deal for non-compliance with sanctions imposed on Russia. But a presidential administration that ignores Russian war crimes, a Republican party that condones foreign manipulation of its elections and a European Union that accepts invasion of one of its neighbours will surely wave this deal through.

The incoming administration seems likely to relax the sanctions in any case.

Russia needed some energy victories after years in which the rise of US shale, falling European gas demand and a series of strategic pipeline blunders have badly dented its position in its core markets. The Middle East seemed to be an unlikely arena for success – the Russians cannot compete with western oil companies for technology, nor the Chinese for financial firepower.

But this year, even as Russian bombers fly over Aleppo, the Russian and Saudi oil ministers sit down as equals.

The question now: can OPEC sustain this deal?

By Robin Mills

A ***version of this article appeared in The National newspaper on December 3, 2016***

OPEC is not dead. The record number of journalists who crowded to Vienna to report on its deliberations might have been ready to write obituaries. Instead, the organisation has come up with a complicated deal to cut production, which at first sight satisfies almost everyone.

The main features of the accord are as expected. Saudi Arabia, the UAE and Kuwait will bear the main burden of the 1.2 million barrel per day cuts, reducing production by 756,000 bpd against the baseline. Libya and Nigeria are exempt from limits.

Strikingly, Iraq, after raising numerous objections, has accepted production cuts, too. The difficult case, Iran, has been assigned a cut – but only from a theoretical pre-sanctions level. Its new quota is actually about 100,000 bpd above what it is producing today.

Saudi Arabia, as always the main OPEC player, has succeeded in one major goal – a limit, in principle at least, on Iraq, which has not had a formal quota since 1998. Iraq's huge and low-cost reserves and the efforts of international companies make it the main challenger to Riyadh within the organisation.

Saudi Arabia has, though, made a significant concession to its biggest political rival, Iran. This has been the price to be paid for getting any deal; the price, too, of the Saudis' financial struggles. Iran probably cannot produce at its assigned level yet anyway, so it is effectively getting a free pass. On the other hand, its share of total OPEC output, at 11.6 per cent, will still have only returned to the identical level of 2011, before stringent sanctions were imposed.

Oil prices rose more than 10 per cent on the news of the planned 4.6 per cent drop in production. But even with the planned OPEC cuts, if non-OPEC countries do not participate, supply will still exceed demand in the first half of next year and already bloated stocks will swell further.

The deal faces two challenges, one tactical, one strategic.

The tactical one is the question of compliance, which has always dogged OPEC. The planned cut is quite modest, about 1.4 per cent of global production. If, as has so often been the case in the past, some countries cheat, the oil price gains will soon evaporate.

Indonesia, which only rejoined in January, has suspended its OPEC membership, raising the question of why a net importer was allowed back. Small cuts demanded of countries such as Gabon seem purely token, impossible to police or distinguish from unavoidable variations in output.

If Libya or Nigeria can get their security situation under control, production will rise further, demanding further cuts from others or weakening prices. The current arrangement lasts for six months – bringing us to the summer next year, when Saudi Arabia's domestic demand will be rising again and the country would normally look to boost output. If market conditions are not substantially improved, there will be more difficult discussions ahead.

The arrangement seems to be conditional on Russia cutting 300,000 bpd and other non-OPEC countries another 300,000 bpd. If achieved, this would be a landmark achievement, widening OPEC's influence over the oil market to a level not seen since the late 1970s. But this has to be viewed with great scepticism – Moscow has sometimes offered cooperation with OPEC but never followed through. Its own compliance here is conditioned on the OPEC and other non-OPEC peers doing their bit. The OPEC and non-OPEC states will meet in Doha on December 9.

Russia will have to coordinate output restrictions across several state and non-state companies, including the giant Rosneft, a sceptic on cuts. In freezing winter conditions, it will also have to manage the technical difficulties of shutting in production at ageing fields, which yield large amounts of water. It is not clear what level Russia will cut from – probably from its own elevated forecast for next year, meaning that, like Iran, it would be curbing theoretical and not actual output.

The existence of other non-OPEC countries able and willing to make the sizeable production cut demanded of them is doubtful. Of those at the table, Azeri production is in decline anyway. Oman has made heroic efforts to get total output over 1 million bpd, and cuts threaten its shaky finances. Kazakhstan has just started up its massive Kashagan field and would hardly want to shut it down again. Mexico's licensing rounds to attract international investment into its fields would be rendered pointless by hefty cuts.

The really big non-OPEC producers – the US, China, Canada and Brazil – were not involved in talks and would never agree to restrict output anyway.

The strategic challenge is longer-term and more fundamental. OPEC risks losing at the negotiating table what it has won on the battlefield. Low prices have caused a large decline in US shale oil production, though not as large or as rapid as Saudi Arabia hoped back in 2014.

If prices reach $60 or even $70 per barrel next year, as some analysts now expect, shale oil growth can be expected to resume. One year of expansion like that of 2012 or 2013 would wipe out all the effects of OPEC's cut, leaving it with lower market share and prices not much higher. This would be exacerbated if demand, too, slows as prices rise.

On the other hand, if OPEC can skilfully manage the transition to modestly higher prices, it may be able to find the golden mean – where US output rises only modestly, short-term revenues improve and the organisation can maintain its share of a growing market.

OPEC has demonstrated it can reach a deal, but not yet that it can deliver and sustain it. Production cuts offer lifeline to its financially weaker members. But the organisation has a difficult balancing act ahead: managing the market moderately, but keeping down its upstart competitors.

OPEC production cut agreement terms November 2016 deal (kbpd)			
	Reference production (Oct 2016 secondary sources)	Opec production (Quota from Jan 1, 2017)	2017 quota vs Oct 2016 production
Algeria	1,089	1,039	-50
Angola	1,751	1,673	-78
Ecuador	548	522	-26
Gabon	202	193	-9
Indonesia	722	722	0
Iran*	3,975	3,797	-178
Iraq	4,561	4,351	-210
Kuwait	2,838	2,707	-131
Libya**	528	528	0
Nigeria**	1,628	1,628	0
Qatar	648	618	-30
Saudi Arabia	10,544	10,058	-486
UAE	3,013	2,874	-139
Venezuela	2,067	1,972	-95
Total	34,114	32,682	-1,432
Other non-OPEC			
Russia***	11,205	10,905	300
Mexico***	2,420	2,320	100
Oman***	1,010	965	45
Azerbaijan	860	825	35
Kazakhstan	1,380	1,360	20
Malaysia***	682	662	20
Equatorial Guinea	300	288	12
Bahrain***	48	38	10
South Sudan	170	162	8
Sudan	85	81	4
Brunei	100	96	4
*Iran's reference is based on 2005 production			
**Exempt from deal			
***Oct production; rest is average 2016 production			

Why globalised energy markets are worth defending

By Robin Mills

A ***version of this article appeared in The National newspaper on December 4, 2016***

In late 1941, faced with an embargo on oil and steel, a cornered Japan decided to fight. Japanese bombers crippled the US Pacific fleet at Pearl Harbor before seizing the oilfields of South-east Asia. Driven back from the gates of Moscow in the summer of 1942, Hitler's armies made a drive for the oil of Baku, an offensive that would end in cataclysmic defeat at Stalingrad.

Then in 1953, the US backed a coup to remove Iran's popularly elected prime minister Mohammad Mossadegh, who had nationalised the Anglo-Iranian Oil Company, the forerunner of BP. The US imposed quotas limiting its imports of foreign oil, sparking the formation in 1960 of OPEC. And until the mid-1970s, the "Seven Sisters" international oil companies dominated the industry, mostly moving their own production through their own refineries with opaque prices.

These events seem like a throwback to an earlier world of colonial empires and autarkic spheres of influence. But as the 1930s showed, globalisation can be reversed, splintering a multinational trading system into blocs.

Oil was among the earliest and most completely globalised industries (gas took longer). Oil was traded internationally almost from the start, as in 1892 Shell shipped Russian oil to the Far East then merged with Royal Dutch, whose fields were in what is now Indonesia.

This globalised market was near-perfected by Soviet gas pipelines to Europe in the 1970s; the 1991 collapse of the USSR itself, opening its petroleum to world markets; the ascent of China to the world's biggest oil importer during the 21st century's first decade; and in the past few years the extension of the liquefied natural gas industry led by first Qatar and most recently the US. One of the biggest energy market distortions was removed last year when the US decided to permit crude oil exports.

Beijing sought through the early 2000s to achieve "energy security" by purchasing hydrocarbon fields from Kazakhstan and Sudan to Colombia. But it later gained enough confidence in the international market to rely largely on normal imports and price benchmarks, although backed up with bilateral deals with select countries, notably Venezuela and Angola. It, and India, remain critically dependent on US-patrolled seaways in the Arabian Gulf and Indian Ocean.

Yet this year, antiglobalisation political forces have strengthened. Canada, Australia and the US have all restricted or rejected Chinese energy investment at various times. The probable collapse of American free trade deals with Europe and east Asia has been accompanied by China pushing its own regional pact. A climate-wrecking US may be faced with tariffs from environmentally conscious countries.

Some of today's technological trends also contribute to energy nationalism, as shale production has made North America largely self-sufficient in oil and gas. Rising shares of renewable energy, such as wind and solar power, will largely be consumed in the country, or at best the region, where they are produced.

Most serious is the rise of economically illiterate, far-right antitrade populists, most obviously the Brexiteers in the UK and Donald Trump in the US.

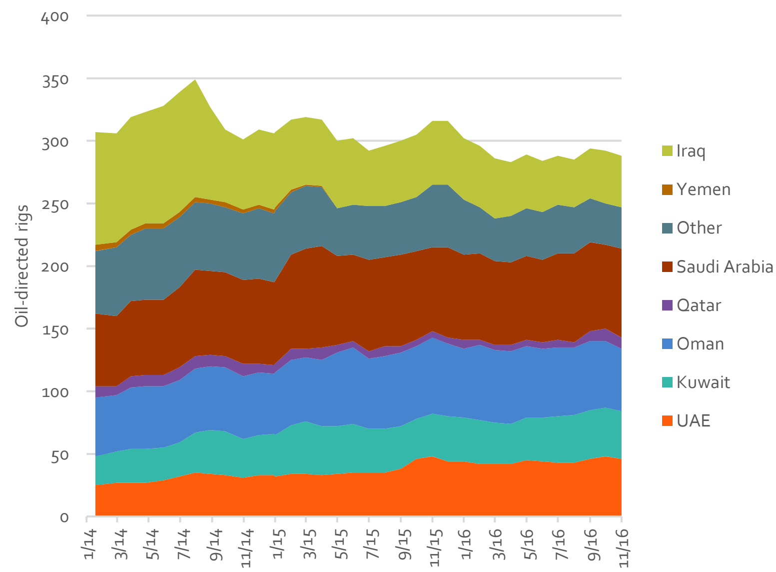
Their ideological complements are the strategic mercantilists, most notably in Beijing and Moscow. Russia has for some years preferred business on a bilateral basis, selling its gas with a heavy dose of politics, though oversupply and EU action has reduced its market power. The US is not immune from this temptation either, particularly in the energy sanctions imposed on Russia and Iran – a useful tool but prone to overuse by short-sighted politicians.

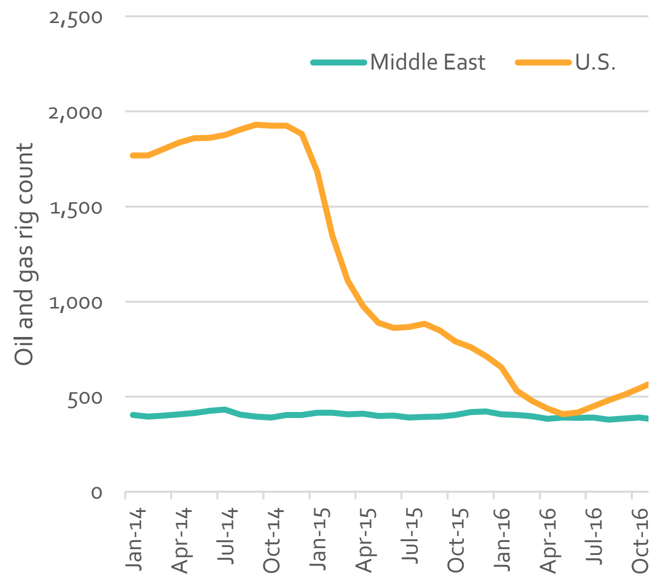
Despite the retreat to economic nationalism and regionalism, it is still too early to mourn the death of globalisation. The technological and institutional forces driving it are strong. But strangulation of the mainly free trade in energy would bring more poverty, suspicion and risk of conflict, not less.

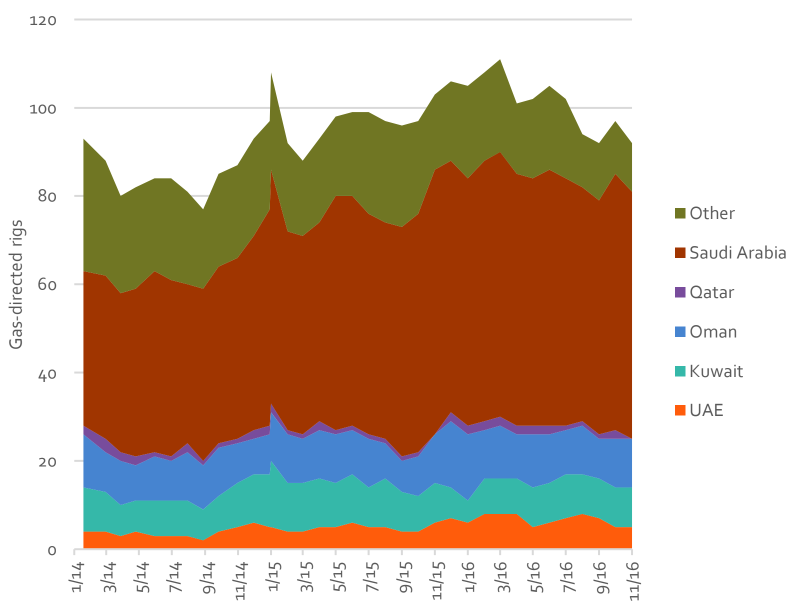
Rig count snapshot

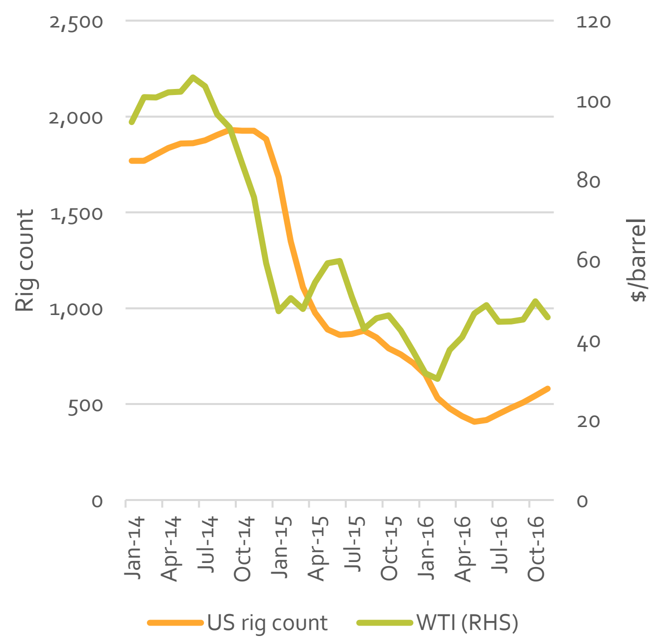
- Iran is the most active driller - 57 active rigs in October 2016 (OPEC October monthly report)
- After OPEC deal, Middle East rigs count went down 11 rigs by non-OPEC Oman, and OPEC-Abu Dhabi and Qatar, each of which fell 3 units

- US oil-directed rig count closely tracks oil price (with a 3-month lag)
- 580 total rigs in November for the US (+36 ne rigs from October) vs 380 in the Middle East (-11 rigs)









Rig Count data: Baker Hughes; Oil price data: EIA

Fuel prices and subsidy reform

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 following table represents December 2016 gasoline and diesel pump prices ($/litre) in the GCC countries.

	Old ($/litre)		New ($/litre)	
	Gasoline 95	**Diesel**	**Gasoline 95**	**Diesel**
Saudi Arabia	0.16	0.07	**0.24**	**0.12**
UAE	0.45*	0.47*	**0.46**	**0.49**
Qatar	0.37*	0.37*	**0.42**	**0.39**
Bahrain	0.27	0.42	**0.42**	**0.32**
Kuwait	0.21	0.36	**0.35**	**0.31**
Oman	0.46	0.39	**0.46**	**0.46**
US (Pre-tax)	0.62	0.57	**0.58**	**0.50**

**Previous month prices; Source: EIA; News Sources*

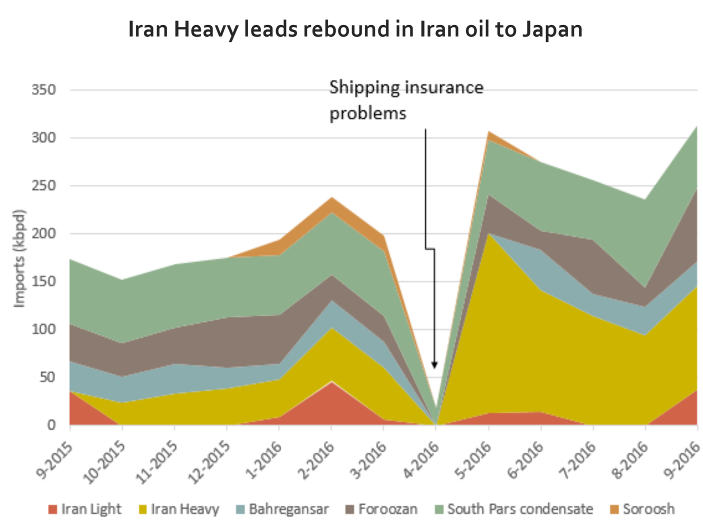
OPEC Watch

Strategy	Comments
Organization changes	• The group appoints new secretary general, Nigeria's Muhammed Barkindo, effective 1st August 2016 • Confirmed the re-entry of Gabon in June 2016 since it left in 1995; current production at 216 kbpd in Nov. 2016 • Re-entry of Indonesia in January 2016 – current production at 739 kbpd in Nov. 2016 • Indonesia suspended from OPEC on Nov 2016 and its production will be distributed among other OPEC nations
Support from non-OPEC	• OPEC and non-OPEC states met in Doha Dec 9 and reached their first deal since 2001 to curtail oil output jointly and ease a global glut • Non-OPEC agreed to reduce output by 558 kbpd, short of the initial target of 600 • Russia to cut 300 kbpd and other non-OPEC countries another 258 kbpd including Kazakhstan, Azerbaijan and Mexico • The really big non-OPEC producers – the US, China, Canada and Brazil – were not involved in talks and would not agree to restrict output anyway
Production limit	• Saudi Arabia, the UAE and Kuwait will bear the main burden of the 1.2 million barrel per day cuts • Iraq agreed to production cuts • Iran has been assigned a cut to a theoretical pre-sanctions level- the new quota is about 100 kbpd above what it is producing today • Libya and Nigeria exempt from deal

Robin Mills talks on OPEC:

1. OPEC-Russia Roadshow Heads to Vienna
2. OPEC agrees on cut but will it have an impact?

Robin Mills speaks at 4th Annual Platts Middle East Summit on Iran – Production expansion, new crude streams and contracts – example of presentation slide



Key MENA Energy Scorecard

MENA energy price reform	🟢	⇔	Abu Dhabi to raise electricity/water prices in 2017; Egypt to raise electricity prices in 2017; Kuwait govt. will subsidise 75 litres of fuel a month for its citizens, which was about 30% of the original price increase that became effective in September; government dismissal in Kuwait over fuel subsidy debate
MENA unconventional oil & gas	🟠	⇔	BP expansion of Khazzan to 1.5 Bcf/d; Aramco planning to invest $334 billion by 2025 on its shale gas programme and other oil and gas projects; much of additional gas supply in Saudi from 2020 onwards likely from unconventional gas resources; Phase 1 BP Oman's Khazzan project 80% complete and on track to deliver first gas near the end of 2017 with 38 of the initial 50 wells drilled
MENA alternative energy	🟡	↑	DEWA signed purchase power agreement with Masdar/ALJ consortium for the development of Phase III of the Mohammed bin Rashid al-Maktoum Solar Park - lowest tariff of 2.99 $c/kWh; Tunisia kicked off investment conference including five 50MW solar projects and 80MW wind project; European Development Partners signed agreement with the Egyptian government to finance portion of 200MW wind farm
MENA nuclear power	🟡	⇔	Abu Dhabi's $24.4 bn Baraka nuclear power plant reaches financial close; KEPCO takes 18% stake in Baraka; Jordan's $10bn 2 GW atomic power plant still in feasibility stage, to be completed in 2017; Egypt plans to sign the final contract of the 4.8GW El-Dabaa nuclear facility by end of 2016
Energy infrastructure security	🟠	⇔	Clashes still breaking out in Libya near Ben Jawad town, west of some of Libya's major oil ports; Libyan production up with re-opening of El Feel, Sharara fields; bombing of energy infrastructure causing oil spills in Nigeria hurting aquatic life; militants still targeting oil infrastructure in south of Nigeria; Nigeria signed deals with ExxonMobil, Shell & Chevron to resolve dispute over back payments of $5 bn on joint ventures – this move to restore confidence; Petrol station attack in Iraq on Nov. 25, 2016 killed nearly 100 people
OPEC production	🟡	↑	November produced record 33.87 million b/d as Nigeria, Libya, and Iraq all reported increases; Libya plans to almost double crude production in 2017 to 1.1 Mb/d and targeting 900 kbpd by end-2016 up from current 600 kbpd; After the OPEC deal, Nigerian President announced plans to restore oil production to levels before the attacks started at 2.2 Mb/d
East Mediterranean gas commercialisation	🟡	↑	Israel and Turkey looking at a deal to start exporting gas to Turkey by 2019; Leviathan gas field start date approved to start commercial production in 2019: New appraisal well (Leviathan-5) to be drilled in Q1 2017 on the field to assess the gas quantity; Israel approves the sale of two gas fields in the eastern Mediterranean to the Greek firm Energean; Energean to start Tanim/Karish production
Egypt energy reform	🟠	⇔	Oil and electricity subsidies reached peak of EG£139.5 billion in the 2013-14 fiscal year, and have fallen to EG£62.4 billion in the 2016-17 budget, ~2% of GDP, partly due to subsidy cuts but mostly because of falling oil prices
Kuwait developments	🟡	↑	Essam Abdul Mohsen al-Marzouq appointed new oil minister - previously headed Kuwait's stock exchange and was board member at Kuwait Petroleum Corporation; technology contract awarded for Jurassic gas processing plant for recovery and acid gas removal; Plan to restart Al-Khafji field in the Neutral Zone, with Saudi Arabia - field can produce 300 kbpd
Abu Dhabi developments	🟡	↑	ADNOC and Occidental plan to expand Al Hosn facility which will increase the plant's sour gas processing by 50%; ADNOC plans to merge two offshore oil companies: ZADCO and ADMA; ADNOC to merge three shipping service companies; Haliba field development (on the border with Oman) underway with EPC bids submitted with first oil expected in Q4 2017
Iraqi Kurdistan (KRG) developments	🟠	⇔	The KRG exported 580 000 bpd independently from 564 808 bpd in September to 522 046 bpd in October; ExxonMobil relinquished 3 out of 6 blocks; KRG to offer 20 new and redrawn oil blocks for bidding in 2017
Federal Iraq developments	🟠	↑	Federal Iraq and KRG November production from direct sources at 4.8 Mb/d and 4.564 Mb/d from secondary sources; Iraq crude oil exports reached 4.051 Mb/d including exports via Turkey's Ceyhan port and independent Kurdistan exports; Plans to start bidding 12 new oil fields delayed till mid-2017; One bid received for the Iraq-Jordan 1 Mb/d pipeline-plans are progressing; GE, Trade Bank of Iraq and Standard Chartered Bank signed a financing MoU for the development of power and infrastructure projects to meet the growing demand for power in Iraq
Iran developments	🟡	↑	Iran production 3.703 Mb/d in November from 3.709 Mb/d in previous month; Iran projects 50% increase in crude export revenues with budget based on average crude price of $50 a barrel; India pushing for Iran to award expedition rights of Farzad-B field to ONGC Videsh; Schlumberger signed MoU for feasibility studies at Shadegan, Parsi and Rag-e-Safid fields; Total and China National Petroleum Company sign heads of agreement to develop phase 11 of South Pars offshore gas field; DNO signed MoU with NIOC to study Changuleh oil field; PGNiG signed MoU with NIOC to study Sumar oil field; Shell signed MoU for South Azadegan and Yadavaran oil fields and Kish gas field

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

b/d = barrels per day
Bcf/d = billion cubic feet per day
Tcf = trillion cubic feet
mcf/d = million cubic feet per day
Mb/d = million barrels per day
kbpd = thousand barrels per day

About Qamar Energy

Robin Mills spoke at conference ***"How Energy Markets and Geopolitics are Impacting the Middle East"*** organized by The Lebanese Center for Policy Studies, in collaboration with the Natural Resource Governance Institute

As oil and gas prices have decreased in recent years, the Middle East has also been mired with conflict and poor economic performance. The conference reflected on these recent developments in order to examine policy options. The conference also highlighted the current energy situations in Iran, Iraq, Lebanon, Libya, and Saudi Arabia.

Robin Mills

CEO

Robin established Qamar Energy to meet the need for regionally-based Middle East energy insight and project delivery. He 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 recipient of the 2016 'Energy of Word' Global prize at the St. Petersburg International Economic Forum.

Prior to this, he led major consulting assignments for the EU in Iraq, and for a variety of international oil companies on Middle East business development, integrated gas and power generation and renewable energy.

Robin worked for a decade for Shell, concentrating on new business development in the UAE, Qatar, Iraq, Iran and other Middle Eastern countries, when he was described as the "Shell expert on Iran".

He subsequently worked for six years with Dubai Holding and the Emirates National Oil Company (ENOC), where he advanced business development efforts in the Middle East energy sector, including major gas import schemes for Dubai and upstream developments in Iraq, Qatar, Yemen, Pakistan, Turkmenistan, Algeria and elsewhere.

He is the author of two books, *The Myth of the Oil Crisis*, which evaluates global long-term oil supply, and *Capturing Carbon*, the first comprehensive overview of carbon capture and storage for the non-specialist. He is the columnist on energy and environmental issues at The National newspaper (Abu Dhabi), and comments widely on energy issues in the media, including Foreign Policy, the Financial Times, The Atlantic, CNN, CNBC Arabiya, BBC, Al Jazeera, Bloomberg, Sky News and others.

Robin also authored a ground-breaking study, *Sunrise in the Desert: Solar becomes commercially viable in MENA*, of solar power competitiveness in the Gulf (with PWC/Emirates Solar Industry Association) as well as the study *Under the Mountains: Kurdish Oil and Regional Politics* for the Oxford Institute for Energy Studies and *Risky Routes: Energy Transit in the Middle East* for Brookings Doha Center.

He is Non-Resident Fellow for Energy at the Brookings Doha Center. He holds a first-class degree in Geology from the University of Cambridge, and speaks Arabic, Farsi, Dutch and Norwegian.

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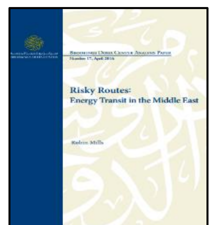

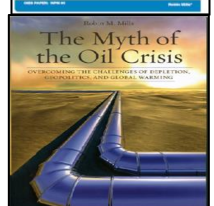

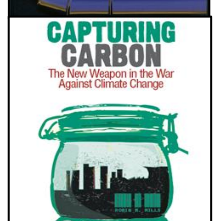

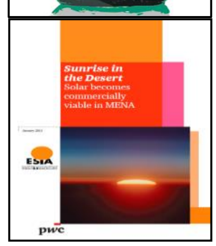

Robin Mills receives the 2016 'Energy of Words' at the Global Energy Prize in St. Petersburg, Russia.

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