Photo courtesy of Arab News

READ OUR PIECE ON THE GCC-QATAR CRISIS

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QAMAR ENERGY

Issue 14: June 2017

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Qatar Still Has Many Friends in Energy Markets

By Robin Mills A *version of this article appeared on Bloomberg View on June 6, 2017*

Oil markets seem impervious to geopolitical risk. As four Arab neighbours imposed an unprecedented embargo on Qatar on 5th June, oil prices briefly jumped 1.6 percent before falling back. The fuel to watch, though, is not oil, but gas. If this dispute is not resolved quickly, it may mean a hot summer in the Gulf. The problem has been simmering for a long time, with three of Qatar's Gulf Cooperation Council colleagues blaming it for backing Islamist groups including the Muslim Brotherhood, and being too friendly with Iran. But in a dramatic escalation shortly after U.S. President Donald Trump's visit to Saudi Arabia, the United Arab Emirates and Bahrain, along with Egypt, the shaky official government of Yemen and Libya's contested eastern government broke relations with Doha and imposed a ban on air, land and sea travel. Much of Qatar's food and key equipment comes by land from Saudi Arabia, or reshipments through Dubai's Jebel Ali port.

Qatar is one of the smallest oil producers in OPEC, at 618,000 barrels per day, but condensate (light oil) and natural gas liquids -- byproducts of its giant North Field -- add about another 1.3 million barrels per day. It will stay in the OPEC production cuts deal, and even if it does not, its contribution is small. Its real power comes from being the world's largest liquefied natural gas exporter.

Qatar's liquefied natural gas and oil exports should not be affected, even if Saudi and Emirati waters are barred to its ships. They can sail via Iranian waters and then pass the Strait of Hormuz via the usual shipping lane in Omani territory, or stay in the Iranian sector if Oman joins its GCC colleagues in the blockade. Any attempt to stop Qatari exports would be a major crisis, and would invite a serious response from major LNG customers Japan, South Korea, China and India. Leading Japanese importer Jera Co. has been assured by Qatargas that its supplies won't be interrupted. And for now, Qatar continues to have access to the Suez Canal, the route for its LNG shipments to Europe. But vessels on their way to or from Qatar are now not allowed to call at Fujairah in the UAE, the region's main bunkering port.

Sharing the North Field, the world's largest gas field, with Iran, and having many vulnerable offshore installations up to the Iranian border, Doha has little choice but to maintain reasonable relations with Tehran. It could also turn to ideological bedfellow Turkey or to Russia for support, after underpinning state oil firm Rosneft's share sale in December.

If the dispute continues to escalate, the most serious retaliation open to Qatar would be to cut off natural gas exports to the UAE through the Dolphin pipeline. This project, grouping Total (24.5 percent), Occidental (24.5 percent) and Abu Dhabi's strategic investment company Mubadala (51 percent), delivers more than 2 billion cubic feet per day, more than a quarter of the country's consumption, and also yields about 160,000 barrels per day of condensate and NGLs. About 200 million cubic feet per day transits from the UAE to Oman, which is not -- yet -- part of the embargo. With Gulf temperatures already reaching more than 40 degrees Celsius, power consumption for air-conditioning is approaching its peak.

The UAE has relatively limited immediate options to replace the Dolphin gas. It has LNG import terminals at Dubai and Ruwais in western Abu Dhabi. The Ruwais facility, commissioned last August, now looks like a prescient precaution. But the two terminals presumably won't be taking any Qatari LNG cargoes for some time, so tankers would have to be rerouted from Oman, Abu Dhabi's own liquefaction plant, or further afield.

And the LNG import capacity is still not enough to cover fully for a halt of Dolphin. The UAE would probably have to patch together stop-gap solutions including boosting Abu Dhabi's gas output temporarily, rationing supplies to industries, and burning large quantities of expensive diesel as a substitute fuel in its power plants.

Cutting off supplies, even briefly as leverage to negotiate a way out of the crisis, would be a very serious move for Qatar, damaging its hard-won reputation as a reliable supplier. When Japan had to find emergency energy supplies following the Fukushima nuclear accident, Qatargas stepped up. But this incident might revive Tokyo's 1970s-era worries over too heavy dependence on Middle East oil or gas exporters. The same goes for China, which has been determinedly diversifying its fuel sources.

After decades of worrying about Iranian interruptions to Gulf oil and gas flows, the new concern comes from an unexpected source. Fortunately, there is plenty of slack in the global oil and gas markets, and no immediate danger. But in case this dispute is drawn out, Qatar and its neighbours will be sweating on essential supplies.

New Saudi crown prince to maintain oil policy

By Robin Mills

A *version of this article appeared in The National newspaper on June 22, 2017*

A new crown prince ascends as oil prices slump. The appointment of the 31-year-old Mohammed bin Salman as next in line to the throne of Saudi Arabia can set the direction of Saudi policy – and its massive energy sector – for decades to come. With the kingdom facing an unprecedented confluence of economic and regional political threats, the pace of reform cannot slip.

The prince's rise should not bring any sharp changes in the kingdom's energy policy – on the contrary, it consolidates approaches that were already clear, under energy viceroy and close confidant Khalid Al Falih.

The kingdom's emerging energy strategy has three pillars. Firstly, with most consequence for other oil producers, the country's OPEC policy and cooperation with non-OPEC producers. When Mohammed bin Salman became the deputy crown prince in April 2015, the oil price slump was well under way, and Ali Al Naimi, the oil minister at the time, was encouraging high production to reclaim market share. Just a year later, at the infamous Doha meeting, the prince intervened to prevent an OPEC agreement unless Iran agreed to limit its production.

Mr Al Naimi left his post and his successor, Mr Al Falih, then chairman of Aramco, was handed a vastly expanded portfolio that included electricity, industry and mining, effectively giving him – and therefore his boss – control over more than half of the Saudi economy.

The prince has found a common ground with the Donald Trump administration in taking a harder line against Iran, which recently renewed its own leadership. Flashpoints from Yemen, Syria and Iraq to Doha all threaten regional security and energy supplies, even while markets yawn.

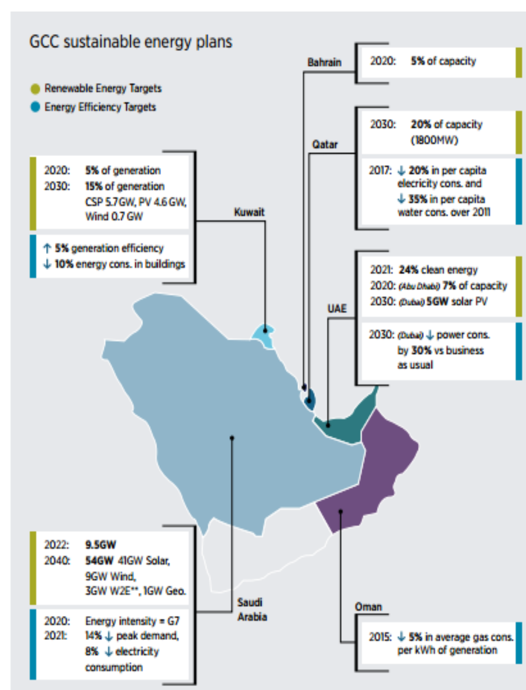
Secondly, the transformation of state oil giant Saudi Aramco into a global energy champion, via its initial public offering, overseas expansion and extension into downstream markets for refining and petrochemicals.

The IPO breaks with more than 40 years of growing government ownership of the oil sector, and triggered surprise within the company. It still faces many unanswered questions, such as whether its valuation will match the aspired US$2 trillion or a much lower figure independent analysts calculate; where it will be listed, whether New York or London; and how issues of governance, reserves disclosure and non-core businesses will be dealt with. But the ascension of Mohammed bin Salman makes it almost inconceivable that there will be a change of mind on this flagship endeavour.

Thirdly, the overhaul of the domestic energy sector, removing subsidies and boosting efficiency. The kingdom's renewable programme has advanced little, despite its wealth of solar and wind resources. Earlier efforts under the King Abdullah Centre for Atomic and Renewable Energy became bogged down in turf wars. But with Mr Al Falih now in overall control, and the country now offering its first large renewable projects, this sector should take off.

And the transfer of Saudi Electricity Company's debts to the finance ministry, announced on Monday, paves the way for its privatisation – perhaps an even more tangled and domestically sensitive effort than the Aramco IPO, given its potential to affect Saudi families' pockets as power and water prices rise.

We do not know whether the prince is a devotee of the Prussian military strategist Carl von Clausewitz, but he may appreciate his dictum, "The best strategy is to be very strong, first generally, then at the decisive point". Strength in general depends on the wider economy, which needs Prince Mohammed's Vision 2030 to be deep, sustained and accepted. The kingdom remains strong in oil, but is that any more the decisive point?



Source: IRENA Renewable Energy Market Analysis: The GCC Region

Oil production will get harder to balance as time goes on

By Robin Mills

A *version of this article appeared in The National newspaper on June 18, 2017*

Restoring balance to the oil markets appears as hard as restoring balance to the Force in Star Wars.

After the optimism of last November's production cuts agreement, low prices are striking back. With Brent crude at a seven-month low, can OPEC avoid a rebellion?

The producers' organisation knew the route to rebalancing would be longer than a few parsecs. Its target has been to bring oil stocks in the OECD (developed) countries, currently 292 million barrels above, down to their five-year average.

Time may not be on the producers' side. Overall compliance to the deal has been unprecedentedly good – hovering around 90 per cent for the OPEC members, helped by Saudi over-compliance. Even Russia, for the first time ever, has made significant production cuts in support of OPEC.

But several major players' adherence is likely to weaken during the deal's nine-month extension, agreed in Vienna last month. Saudi Arabia itself will experience increasing demand for its own power generation over the summer, requiring it to curb exports at a time of financial stringency.

More importantly, output from Iraq, one of the worst compliers in the OPEC deal, is set to rise this year. With a quota of 4.35 million barrels per day, it produced 4.42 million bpd in May, but capacity could reach 5 million bpd by the end of this year as investment resumes at the Zubair, West Qurna 1 and Halfaya fields, along with the Abu Dhabi-owned Taqa's Atrush field in the autonomous Kurdish region starts up.

Iranian production is close to its maximum for now but by early 2018, and after cutting some deals with international oil firms, it may be looking ahead to production gains, too.

Of the two OPEC states not included in the deal, some temporary political deals have allowed Libya's output to top 800,000 bpd for the first time since 2014 and Nigeria has also bounced back. Neither is likely to agree to any ceiling on their production, as they remain well below potential. Khalid Al Falih, the Saudi energy minister, has said other OPEC members would "pick up the slack" for these two countries, a dangerously open-ended commitment.

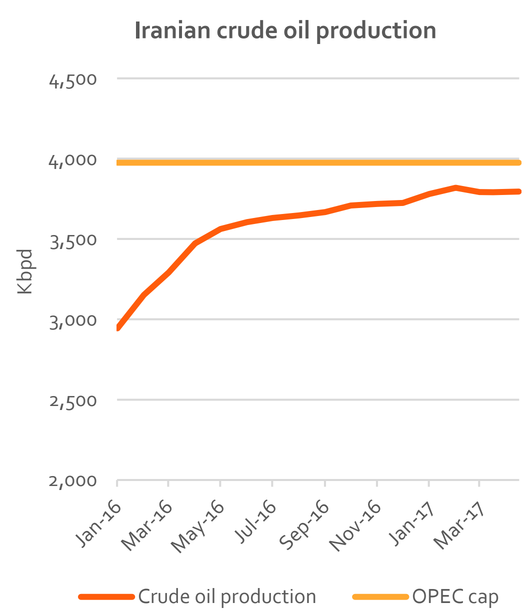
On the non-OPEC side, Russia's production usually rises in the second half of the year because of favourable weather, and all its major companies have expansion plans. Kazakhstan has accommodated its huge new Kashagan field by cutting output elsewhere but is unlikely to sustain this through the year. The other non-OPEC participants will probably mostly comply involuntarily because of natural declines.

And outside the "Vienna Group" of OPEC and its non-OPEC allies, the United States, led by shale producers, and Canada, are set for strong growth, with output forecasts continually revised up.

A number of forecasters, including the International Energy Agency (IEA), are now suggesting that the market will not even be balanced in 2018, with a continuing slight surplus. The IEA sees stocks falling to "normal" levels by the end of this year, but that relies on a dramatic acceleration in demand, after a weak first quarter of the year. And on OPEC's own figures, stocks will continue to build during this year.

If the Vienna deal has still not had the desired impact by its expiry next March, and if some members feel they are losing market share to recalcitrant colleagues, non-OPEC allies and shale, consensus may crumble. There does not seem much prospect of the even deeper cuts that would be required to bring down inventories by March – Iran, Iraq and Russia in particular are unlikely to sign on.

Increasingly, it seems OPEC was too optimistic in hoping for a balanced market this year and the fortunate confluence of circumstances that allowed for the Vienna deal may not last forever. Only a more sustained period of prices in the US$40s can stall the return of shale. This series has several more episodes to run.



Source: OPEC secondary production figures

This is a good time to talk about energy security

By Robin Mills

A ***version of this article appeared in The National newspaper on June 11, 2017***

On Thursday, the liquefied natural gas carrier Al Mafyar, en route from Qatar to South Hook in Wales, changed its route from the Suez Canal to go around the Cape. On the same day, the Zarga, sailing west into the Gulf of Aden, turned around to go east. Most strikingly, on Wednesday, an LNG tanker from the US, chartered by Shell and heading for Kuwait, turned around to deliver to Dubai.

Energy markets have not yet been seriously upset by the embargo on Qatar by the UAE, Saudi Arabia, Egypt and several other countries, but some effects are visible. The voyages of Al Mafyar and the Zarga, reported by Kpler, a Paris-based ship-tracking service, have lengthened by five to 10 days. It is not clear why they diverted, as the Suez Canal is still open to ships sailing from Qatar, unless it was a precaution. UK gas prices jumped by 4 per cent on the news of the tanker detours.

With eyes on the usual hotspots such as Libya, Venezuela and the South China Sea, this is not the energy threat analysts were expecting, but the same principles apply.

There are three ways of gaining energy security: self-sufficiency, diversification and mutual interdependence. Shale resources have allowed the US to take some steps down the first path in recent years. Japan, with little fossil energy of its own and its nuclear power severely restricted since 2011's Fukushima accident, sources LNG from many suppliers.

Europeans have since the 1970s sought to build a common gas market and to tie Russia into a reciprocal relationship, while boosting imports from Qatar and others. The supplier benefits, at least in theory, financially as well as from gaining a reputation as a reliable partner.

As major oil and gas exporters, the Arabian Gulf countries have not had to think much about their own energy security before. But over the past decade, the UAE and Oman started to buy gas via the Dolphin pipeline from Qatar and the UAE and Kuwait began importing LNG via tanker with Bahrain soon to follow. Energy also means water in these desalination-reliant countries.

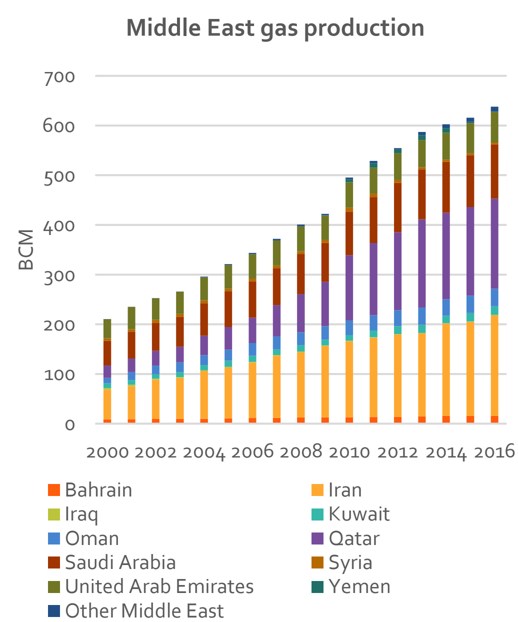
Even though the world's largest gasfield sits in the middle of the Gulf between Qatar and Iran, long-running political and commercial objections have prevented the development of a true regional gas grid. There is an electricity interconnection, whose main spine runs down from Kuwait through Saudi Arabia to the UAE, with side branches to Qatar and Bahrain and onwards to Oman.

This lack of gas pipelines explains the turn to LNG terminals, which can receive cargoes from anywhere in the world. If there is ever a good time for a crisis over the world's largest LNG exporter, it is now. The market is oversupplied. Most importantly, US exports are growing, providing flexible supply not tied to a given destination.

It may be a long way from Louisiana but after a single LNG cargo from the US docked at Jebel Ali last year, three have come since the start of May. Last year, Dubai also purchased from Nigeria, Oman, Australia and others. The installation of Abu Dhabi's first LNG import terminal at Ruwais last August looks like a timely move, while Sharjah's import facility should start operations next year.

Beyond gas, the nuclear power plants in Abu Dhabi's Western Region, due to start up shortly, and the growing use of solar power, also diversify supplies. Removing subsidies and improving efficiency reduces vulnerability across the whole economy.

The transformed Middle East political landscape poses novel threats to energy security – not just to far-off customers but to countries within the region. At the same time, developments in technology and markets are creating solutions. The shifting tanker routes are visible signs of an industry more robust to danger than a decade ago.

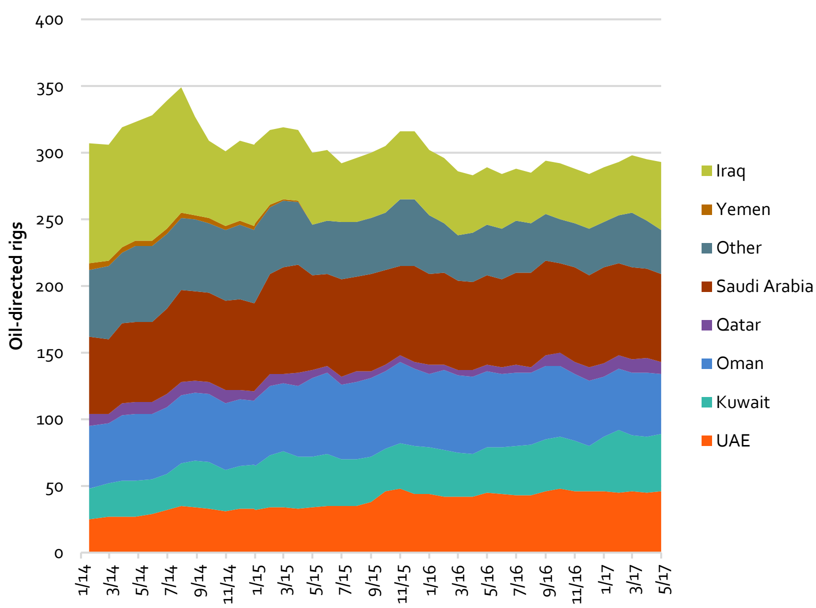


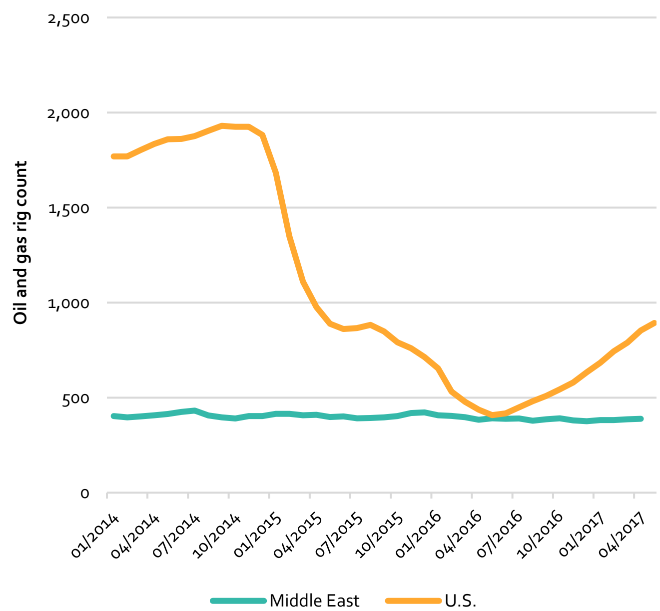
Source: BP Statistical Review of World Energy 2017

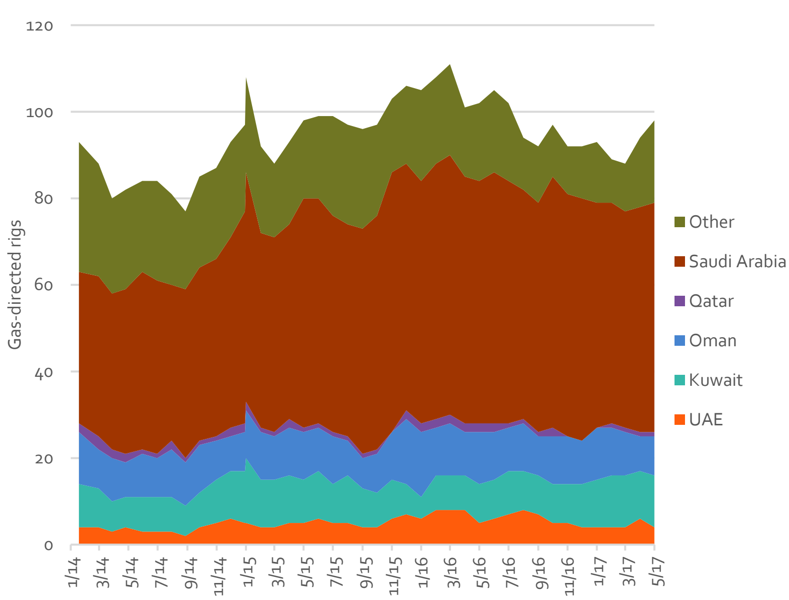
Rig count snapshot

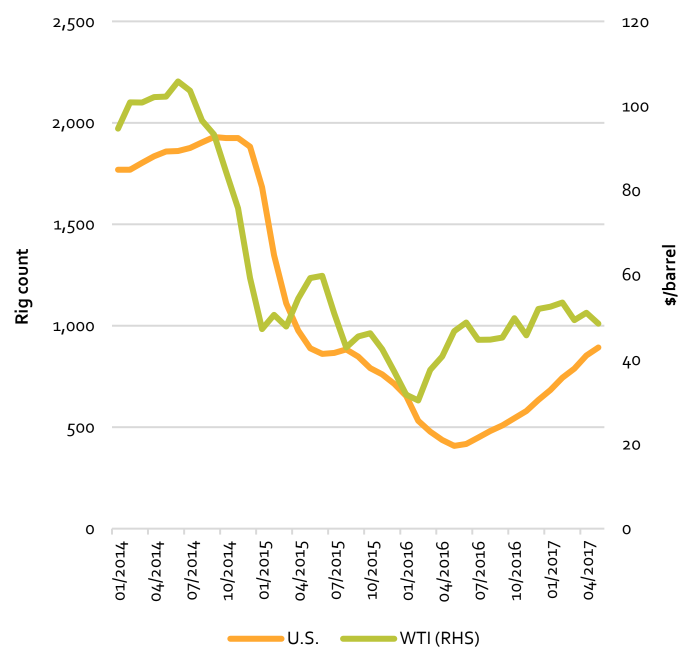
- In May, Middle East oil rig count decreased by 2 rigs and gas rig counts increased by 4.
- **Oil rig count:** UAE +1, Iraq +5, Kuwait +1, Oman -3, Qatar -2, Saudi Arabia -1, Other Middle East -3 (Pakistan, Sudan, Jordan, Syria, Egypt)
- **Gas rig count:** UAE -2, Kuwait +1, Oman +1, Saudi Arabia +1, Other Middle East +3

- From 2016 the number of rigs in US increased by 239 units.
- In May, the US oil rig count reached its highest level since April 2015 when rig count was 976.
- Oil rigs on the rise with higher efficiency lowering breakeven prices and higher availability of capital.









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 June 2017 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*	0.50	0.52
Qatar	0.37*	0.37*	0.45	0.42
Bahrain	0.27	0.42	0.42	0.37
Kuwait	0.21	0.36	0.34	0.36
Oman	0.46	0.39	0.49	0.5
US (pre-tax)	0.62	0.57	0.68	0.65

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

OPEC Watch

Strategy	Comments
Organization changes	• Created the Joint Technical Committee (JTC) to monitor adherence to the OPEC and NOPEC deal. • Saudi Arabia elected as OPEC president for 2017. • Equatorial Guinea joins OPEC as the 14^{th} member. The country produces on average 250 kbpd.
Production limit (Libya and Nigeria exempt from deal)	• OPEC extended the deal for 9 months (to March 2018) to reduce OECD inventories to their 5-year average. • Saudi Arabia, UAE and Kuwait bear main burden of the 1.2 Mb/d cuts. • Saudi Arabia is the only country meeting full cuts for the whole 5 months so far. • In May, Iraq cut production by 137 kbpd to 4,424 kbpd. Iraq met 65% of pledged cuts in May. • Iran's production still did not reach the agreed OPEC limit of 3,975 kbpd. Iran's reference is based on 2005 production. • Libya and Nigerian production is recovering with speculation they may be part of the deal in the next OPEC meeting (cap on production).
Support from non-OPEC (NOPEC)	• NOPEC agreed to reduce output by 558 kbpd, but compliance rate of less than 100% so far. • Highest compliance rate was in May at 86% compared to 72% and 53% in April and March respectively. • Russia announced it will cut full pledged 300 kbpd by the end of April, but by May it still did not reach full cuts (cut 281 kbpd in May).
Next OPEC meeting	• July 22- Monitoring committee meeting, Moscow, Russia. • 30 November 2017 - 173rd (Ordinary) OPEC Meeting in Vienna, Austria.

Saudi energy Minister, Khalid Al-Falih, said that the recent Saudi-led embargo on Qatar will not affect energy prices "Within the energy markets, there is no change."

Picture courtesy of Alchetron

Key MENA Energy Scorecard

Qatar crisis	🟠	↑	Qatar rejects Saudi/UAE list of demands; additional Turkish troops on the way; Co-loading of Qatari oil cargoes continues; no interruption to LNG supplies; ADNOC declares force majeure on Qatar condensate imports; Qatar to boost North Field output 20% with expanded LNG project
MENA energy price reform	🟢	⇔	Oman fixes fuel prices amid protests of high prices in front of the Ministry of Oil and Gas; Kuwait increased prices of electricity and water for May 2017 - upward pressure in inflation expected; Egypt raises fuel price up to 50% under $12 billion IMF deal; Tunisia raises petrol price 6.7% to $0.726/litre on IMF advice
MENA unconventional oil & gas	🟠	⇔	Algeria considering shale gas again aiming to add unconventional gas production of 80 BCM to total output by 2025; Saudi Arabia's Jalamid field will be the first shale gas project, with 197 MMcf/d sent to the Wa'ad Al-Shamal mining complex by 2018, only a fraction of Aramco's targeted 3990 MMcf/d unconventional gas output by 2026.
MENA alternative energy	🟡	↑	Saudi renewable energy plans expected to add 7,000 jobs by 2020; DEWA received lowest bid for CSP project at the Phase IV of Mohammad Bin Rashid Al Maktoum Solar Park at USD 9.45 cents /kWh; Kuwait National Petroleum Company (KNPC) announced new tender for development of 1GW solar project in Al Shaqaya Renewable Energy Complex; Electricité de France (EDF) appointed engineering consultant for first GCC hydroelectric power plant in Dubai (250 MW); Morocco shortlisted five consortia to compete for Phase I of Noor Midelt project: two hybrid PV and CSP power plants; European Bank for Reconstruction and Development (EBRD) approved $500mn for 16 PV plants in Egypt; German Development Bank finances 10 MW solar PV in south Tunisia
MENA nuclear power	🟡	↑	Abu Dhabi's Baraka nuclear power plant first unit largely complete and expected online in 2017; Russia's State Atomic Energy Corporation (Rosatom) won approval from Turkey to build Akkuyu nuclear power plant in southern Turkey; Reports that 99% of negotiations with Rosatom to develop Egypt's 4800 MW nuclear power plant in Dabaa for $30bn have been agreed.
Energy infrastructure security	🟠	↑	Libya's Sharara oilfield resumed production on June 9 after two days of closure due to protests of health and safety measures at the field after death of one oil worker- oil production hit 903 kbpd in June; Situation in Venezuela worsening with foreign IOCs withdrawing staff from oil fields; Nigeria Forcados loadings resumed in late May 2017 with Shell lifting force majeure in June –exports expected to reach 2.02 Mbpd in August; Protests in southern Tunisia block oil and gas fields (Sabria, Chouech Essaida, Baguel and Targa).
OPEC production	🟡	↑	In May, OPEC crude oil increased by 338 kbpd from the previous month to average 32.14 Mb/d; Libya, significant increase by 178 kbpd to 730 kbpd; Nigeria, oil production increased by 174 kbpd to 1,680 kbpd in May; Venezuela oil production declined by around 7 kbpd from previous month; likely to decline further with increased political tensions.
East Mediterranean gas commercialisation	🟡	↑	EU countries (Cyprus, Greece, and Italy) and Israel agreed to pursue gas pipeline from offshore Israel to the EU to help diversify supplies away from Russia; Israel's gas transmission expanded by 30% in anticipation of start of commercial production at Leviathan field; US companies not interested in 2017 Lebanon offshore bid round.
Egypt energy reform	🟠	⇔	Price of natural gas to the industrial sector increased by ~50% as a result of floating Egyptian pound against US dollar; US dollar currently stands at EGP 14, while at the time of signing agreement, price was EGP 8.88
Kuwait developments	🟡	↑	Kuwait Petroleum Corp. and Oman Oil Company finalize partnership in Duqm refinery. Ground work will begin by end-2017 and completed by 2021; Kuwait's Petrochemical Industries Co. (PIC) agreed commercial terms on JV with Pembina Pipeline for an integrated polypropylene plant in Alberta, Canada; Kuwait and Bahrain planning to tender aromatics plant in Bahrain – FEED completed in October 2016 by Technip.
Abu Dhabi developments	🟡	↑	ADNOC opens north depot aviation fuelling facility at Abu Dhabi International Airport; ADNOC and OMV sign MoU exploring potential collaboration in supporting ADNOC's downstream businesses and smart growth strategy; ADNOC signs agreement with Penthol for Group III Base Oil sales into the US.
Iraqi Kurdistan (KRG) developments	🟠	↓	Iraq Ministry of Oil to take legal action against Neverland tanker that is shipping KRG crude towards the US; Canadian court orders seizure of Neverland; In April 2017, Pearl Consortium led by Dana Gas announced KRG owes $713 million for investment in the Region.
Federal Iraq developments	🟠	↑	Oil exports increased from 3.25 Mb/d to 3.26 Mb/d in May; Oil production increased from 4.38 Mb/d to 4.42 Mb/d in May; SOMO started selling crude at auction on Dubai Mercantile Exchange (DME)
Iran developments	🟡	↑	In May Iran's crude oil production increased 4 kbpd to 3.795 Mb/d with Minister Bijan Zanganeh stating Iran expects output to reach 4 Mb/d by March 2018; Kharg oil terminal in Iran has increased its crude oil loading capacity to 8 Mb/d; India is threatening to cut imports of Iranian crude oil during remainder of 2017 into 2018 over Iran delaying license decision of Farzad B to an Indian IOC.

🟢	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
MMcf/d = million cubic feet per day
Mb/d = million barrels per day
kbpd = thousand barrels per day

About Qamar Energy – what we do

Qamar Energy provides leading-edge strategy, commercial and economic consulting across the energy spectrum

- Leading-edge energy consulting and advisory
- Our professionals have more than 20 years of energy experience
- Experience across the energy value chain
- Energy market intelligence

Our clients

- Private investors
- Oil traders
- Investment banks
- Oil service companies
- Majors and International Oil Companies
- National Oil Companies and governments

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About Qamar Energy- who we are

Robin Mills spoke at the Platts Global Oil Summit in London, 11th May on Asian oil demand.

He also attended the EU-GCC Clean Energy Network in Bahrain on 21st May on renewable energy integration.

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

He has been 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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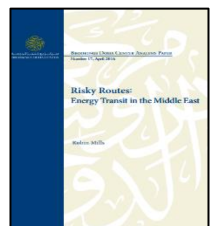

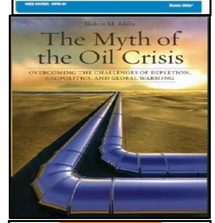

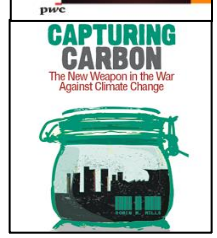

Robin Mills receives the 2016 'Energy of Words' at the Global Energy Prize in St. Petersburg, Russia.

For prize announcement click here