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The dilemma of taxing fuels gained spotlight with the French protests. Cover story by Robin Mills.

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Qamar Energy, headquartered in Dubai, is the leading regionally-based energy consultancy on the Middle East and North Africa (MENA).

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Authors • Robin Mills, Maryam Salman
Editors • Roa Ibrahim, Elliot Mills

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QAMAR ENERGY

THE DILEMMA OF TAXING FUELS GAINS SPOTLIGHT WITH THE FRENCH PROTESTS

Robin Mills • *A version of this article appeared in The National, Dec. 16, '18* • **COVER STORY**

Crude oil prices are falling, but attention on fuel prices is rising. A barrage of presidential tweets blame oil producers for "too high" prices. And the French "yellow vests" have set Paris ablaze over fuel price increases. This illustrates an old challenge for OPEC. But it is also encouraging for the organisation's future policy.

Regular petrol in the UAE sells for the equivalent of $93 per barrel, which includes $60 per barrel for crude oil plus the cost of refining and distribution. The US's modest fuel taxes, which have not increased since 1993, lead to an average price around $105 per barrel.

In comparison, French anger is understandable when motorists pay $258 per barrel, the difference being tax. President Emmanuel Macron's government had planned to add another $0.12 per litre to petrol and $0.24 per litre to diesel, equivalent to $19 and $38 per barrel, respectively.

Europe lagged behind the US in motorisation, making high fuel taxes politically possible immediately after the Second World War. The expansion of mass car ownership thereafter made further sharp rises difficult, and so the pattern has been set ever since of high taxes in Europe, low ones in the US. The smaller scale of European countries, better public transport, and the discouragement of high fuel prices, cause the average German, Italian or Swede to drive only about half the distance per year of an American. European cars are generally smaller and more fuel-efficient.

So paradoxically, Americans spend almost twice as much of their income on fuel than Europeans. Because of low taxation, rises in crude oil prices have a much greater proportionate impact on prices at the pump in the US than in Europe, making them politically more sensitive.

Fuel taxes have been justified in many ways: to fund road-building and maintenance (the main rationale in the US), to limit congestion, to compensate for pollution, and to cut national vulnerability to oil supply shocks. The security threat argument was reinforced by the 1956 Suez Crisis, which blocked the most direct route from the Middle East to Europe, leading to fuel rationing in Britain.

More recently, fuel taxes have environmental support: to reduce carbon dioxide emissions, responsible for global warming, and encourage a switch to electric vehicles.

But of course, one of the most attractive features of fuel taxes is to raise revenue. Driving is unavoidable for most people, nearly all vehicles are petrol- or diesel-powered, and the price at the pump deflects anger from the government to the oil companies – usually, but not always.

As an example, the UK, whose oil consumption is about 1.6 million barrels per day, raises £28.2 billion (Dh130.4bn) annually, 3.6 per cent of government revenue, in fuel duties, and Vat on fuel adds about another 0.7 per cent. OPEC member Angola produces about the same quantity of oil, but earns less in sales, about $34bn.

Despite the revenue and environmental imperatives, and contrary to the Parisian rioters, European fuel taxes have actually fallen over the past two years as a share of the final price, and in real terms they are no higher than twenty years ago. Then, in 2000, the UK almost closed down when angry lorry drivers blockaded fuel depots, protesting against prices that had risen during the 1990s from among the cheapest in Europe to the costliest.

So people respond more to "changes" in fuel prices than to the absolute level. OPEC has long been concerned about the dilemma this poses. If it increases production to lower crude oil prices and boost demand, it fears governments will simply raise fuel taxes, keep the end-user price about the same, and the oil exporting countries will lose revenue for no gain in sales volumes.

Of course, the argument that oil-consuming countries' governments are taking an "unfair" share of the value of fuel is misleading. If countries did not tax fuel, they would have to tax something else to provide services to their citizens. For oil-producing countries, though, the sales price of oil, after production costs, represents a pure gain.

And the recent protests suggest a ceiling on motorists' willingness to accept tax rises. That should be good news for OPEC: it limits heavy fuel duties as a form of carbon tax, a way of cutting greenhouse gas emissions and spurring a transition from internal combustion engines to electric cars. If battery vehicles take over, governments will have to make up lost petrol duties from taxing electric cars, or something else.

Future climate policies on transport will be designed differently. Either carbon taxes have to be clearly offset – by cutting personal income tax, Vat or other levies, or by returning revenues to consumers as a "carbon dividend". Mr Macron's plan signally failed to seem fair to many French people, struggling with high living costs. Or, clumsy administrative measures, such as setting fuel efficiency levels so tight that most conventional vehicles cannot meet them, even banning internal combustion engines outright, will be used.

But European fuel taxes are becoming a sideshow. The continent's consumption is dropping, and future demand growth is in countries such as China and India, which have today moderate taxation – higher than the US's, but well below Bulgaria's, the lowest EU rate. Demand is shifting to international aeroplanes, ships and petrochemical plants, which usually pay no fuel tax. When pump prices are less of a political hot potato, OPEC will have to focus simply on maintaining its crude as a competitive source of energy.

THREE VISIONS OF GAS, AS THE FUEL IS SET TO COMPETE WITH OIL

Robin Mills • *A version of this article appeared in The National, Dec. 10, '18*

Gas is in fashion in the Middle East. The region's major national oil companies have announced ambitious plans to find, produce, transmute and export more.

But for the fuel to complement and ultimately supplant oil, a roadmap is required for the evolution.

Every one of the major Middle East producers' gas reserves life at current production rates exceeds their oil reserves life. The UAE has 98 years of gas versus 68 years of oil; Iraq more than 120 years of gas compared to 90 years of oil. And as less attention has been paid historically to finding gas, they have the potential to boost reserves further.

Adnoc announced last month an updated gas strategy, covering the development of sour gas (containing toxic hydrogen sulphide), producing unconventional gas for the first time, boosting gas use in petrochemicals, and aiming for national self-sufficiency. It also awarded a 10 per cent stake in its offshore sour gas fields to Germany's Wintershall, which will partner Eni of Italy.

Saudi Aramco plans to invest $150 billion over a decade to expand raw gas output from 14 billion cubic feet per day to 23 billion. It will also develop unconventional gas and is looking at investing in Russia's Arctic-2 liquefied natural gas export project.

Meanwhile, despite leaving OPEC, the world's largest LNG exporter, Qatar, has expanded plans to boost its current 78 million tonnes per year capacity to 110 million. Bahrain announced discoveries of gas deep beneath the island, as well as offshore unconventional oil and gas. Kuwait is developing deep, sour light oil and gas in the country's north. And Oman, the regional pioneer of tight gas (from low-permeability reservoirs, requiring hydraulic fracturing), has set gas production records via BP's Khazzan project, and Shell and Total plan a series of investments there, including using LNG to fuel ships. Even Iraq, long the regional laggard, is gradually boosting capture of flared gas, a by-product of oil production, to feed its underperforming power plants.

The NOCs are pivoting in the direction of the big international firms such as Shell, Equinor and Total, which now produce as much or more gas than oil. With ever-growing concerns over climate change and predictions of "peak oil demand" in the 2020s or 2030s due to the rise of electric vehicles, gas seems a safer bet.

Gas produces about 25 per cent less carbon dioxide per unit of energy when burned than oil and much lower other pollutants. Relatively cheap and abundant, a newly globalised business means it can quite readily be transported worldwide. It can generate electricity; fuel cars, lorries and ships either directly or by charging batteries; heat homes and drive industries; and be converted to petrochemicals.

Gas demand growth is quite strong but faces headwinds, mainly from environmentalists. In many Asian countries, coal remains cheaper than gas, if its pollution is ignored. Chinese tariffs would make it difficult for US LNG to compete there. Renewable electricity generation is getting ever cheaper and competes increasingly with gas in windy and sunny areas. Such dynamics suggest two outcomes for future gas.

In the "dead end" view, which many environmentalists would espouse, gas will be replaced by renewable energy from now onwards. Home heating and cooking will be done by electricity and perhaps by "bio-gas" or "biomethane" derived from plant matter and manure.

Or, gas could be a "bridge fuel", replacing coal and oil in the medium-term to reduce emissions but then being overtaken by renewable energy and electrified transport from the 2040s onwards. That is just the lifetime of a major gas platform or LNG plant away. Gas would preserve its role as a petrochemical feedstock, for now, but would have to compete with oil.

But there is a third possibility. The gas industry should articulate a positive vision and not be defensive about its product. Skilful communication has to be underpinned by huge climate-friendly research and investment. Such a vision would be of gas as a "destination fuel", a long-term component of the energy mix. ExxonMobil and the US Energy Information Administration, for instance, see world gas demand passing 100 million barrels of oil equivalent, the current level of oil production, by the 2040s.

That would require keeping gas reasonably cheap, partnering resource holders with skilled expertise and completing a truly global market, including free trade in and out of the Middle East and the former Soviet Union. The Middle East Gas would have to supplant coal in China, India and South East Asia, and spread across Africa. Methane leaks would need to be drastically reduced; in September, 13 leading oil companies in the Oil and Gas Climate Initiative, with Aramco the only Middle East representative, pledged to cut emissions.

Most of all, gas use would have to be accompanied by carbon capture and storage (CCS) to protect the climate, such as ADNOC's planned expansion of its current successful Al Reyadah venture. High-efficiency gas electricity generation with integral carbon capture, like that of Net Power in the US, could be the answer. Transforming gas to hydrogen and capturing the carbon dioxide released would produce the ultimate clean fuel for planes, ships, industry and home heating. Such a plan requires an ambitious combination of communication, politics, technology, investment and commercial savvy. For those with abundant gas, it is the best way to assure a long-term future for today's big plans.

WHY WOULD DOHA CHOOSE TO LEAVE OPEC NOW?

Robin Mills • *A version of this article appeared in The National, Dec. 04, '18*

As delegates descend on Vienna, the city of diplomatic intrigue, for Thursday's OPEC meeting, one member is making its last trip. Saad Al Kaabi, Qatar's minister for energy affairs, announced on Monday that the country would leave the oil exporters' organisation in January.

Qexit is a surprise, but not a severe blow, after tumultuous change at OPEC over the past three years. The big questions are why would Doha choose to leave now? And what does it mean for the group's future?

Qatar is not a founder member, but it was the first to join the original five of September 1960, entering in 1961. It is the first Middle Eastern member to depart. There are, though, precedents for countries leaving the organisation. Gabon left in 1995 and rejoined in 2016. Indonesia suspended its membership in 2009, and came back at the start of 2016 but then suspended itself again at the end of that year when it refused to accept production cuts, as it has become a net oil importer. Ecuador left in 1992, unwilling to pay the $2 million membership fee, but re-joined in 2007. And the organisation also picked up new members: Angola in 2007, Equatorial Guinea in 2017 and the Republic of Congo this June.
The countries that have left OPEC are all small producers with limited impact on decisions and little ability to increase production significantly. Qatar produces about 610,000 barrels per day of crude oil, just 2 per cent of the OPEC total. Its 1.3 million barrels per day of condensate and natural gas liquids, and more than 120 billion cubic metres of gas exports, not covered by OPEC, are far more significant.

Mr Al Kaabi, who only moved up to energy minister from chief executive of Qatar Petroleum (QP) in early November, stated that Qatar would continue complying with deals among global producers, a likely sop to Russia. As well as leading the non-OPEC cooperation, Moscow has been keen to strike deals with several Middle East states, and Qatar owns almost 19 per cent in its national oil champion Rosneft. At last week's G20 meeting, Russian president Vladimir Putin met Saudi crown prince Mohammed bin Salman, and said they had "agreed to extend our agreement".

But Mr Al Kaabi said that Qatar would not be bound by OPEC agreements after exiting. It committed a cut of 30,000 bpd as part of the 2016 agreement. This allowed it 618,000 bpd, and it has been a little below that all year. Its mature oil-fields do not have much scope to increase output without heavy investment in enhanced oil recovery, and long-time partner Occidental will give up the Idd El Shargi North Dome field to QP when its contract expires next October.

So Qatar's exit will not lead to a surge in its production, nor undermine the OPEC cuts. It has not been a decisive voice in the organisation's affairs. Nevertheless, a small membership fee bought it a seat at the table. Given the blockade imposed on it by OPEC members Saudi Arabia and the UAE, OPEC is almost the last remaining forum where the countries formally interact. Conflict between members is nothing new: during the Iran-Iraq war, the Iranian oil minister was at one point a prisoner of war and, twisting alphabetical order, the Iranian and Iraqi delegates were diplomatically seated with Indonesia between them. It is therefore somewhat puzzling why Doha would exit now.

The country stated that its exit was in order to enable it to concentrate on its natural gas business. But membership of OPEC never seems to have impeded it. Saudi Aramco and, most recently, Adnoc have announced major expansions of domestic gas and plans for more international expansion, while remaining in the organisation. Qatar continues to be a member of the Gas Exporting Countries Forum, which is headquartered in Doha and includes the UAE, along with Russia and nine other members.

Doha may also feel that, within OPEC, it is taken for granted, but outside it, it would have to be courted like Oman to join in production cuts. During the era of Russia-OPEC cooperation, it has seemed increasingly that the key decisions are taken outside the Vienna meetings. The UAE and Kuwait generally support Riyadh, and most of the other members are too small, have declining production, or are beset by security and political problems. Only Iraq really has the size and realistic production growth to pursue an independent line.

A Saudi government research institute, the King Abdullah Petroleum Studies and Research Centre (KAPSARC), is conducting a study on the future stability of the oil market which includes a scenario in which OPEC ceases to exist. This is far from government policy, or even an option, at the moment. But Qatar's move may look ahead to a more fluid and amorphous shape for the oil market, where producers drop in and out of cooperation.

The most immediate political driver, though, may also be the most recent. Donald Trump has repeatedly tweeted against OPEC in recent months, complaining prices were too high and expecting Gulf members to support his campaign against Iran by replacing its exports lost to sanctions. A "NOPEC" bill aimed to permit legal action against the organisation is currently wending its way through US Congress. Doha's aim may be to win favour with the volatile president, gaining political credit to be spent later.

SLIDE IN OIL PRICES IS UNLIKELY TO LAST

Robin Mills • *A version of this article appeared in The National, Nov. 26, '18*

As oil prices tumble, OPEC countries meet in Vienna on December 6. Before that, Russian President Vladimir Putin, Crown Prince Mohammed bin Salman of Saudi Arabia, and US President Donald Trump will meet at the G20 gathering in Argentina next week, along with Saudi energy supremo Khalid Al Falih and Russian oil czar Alexander Novak. The two key influencers will be elsewhere: supply and demand.

The current slump should not come as a shock. In the past two decades, something like this drop, down 30 per cent in less than 40 days, has happened six times before. As oil prices were ascending above $86 per barrel in early October, they were already beginning to look unsustainable. Brent crude fell below $60 on Friday.

The current drop is the market's sudden realisation of what was already apparent: that high prices were sowing the seeds of their own destruction. Chinese demand has been slowing, amid some general signs of economic weakness. Oil prices in local currency terms had already reached record levels in important consuming countries such as India and Turkey. Demand destruction is not yet with us, but it was clearly looming.

The supply side has been comparably strong. In the middle of the year, the market seemed headed for shortage. The OPEC-led production cuts had been more successful than expected, compounded by Venezuela's economic collapse and harsh words from Washington about aiming to drive Iranian oil exports to zero via sanctions.

Saudi Arabia ramped up production pre-emptively as US president pressed on with his twitter attacks on OPEC. Its November output is expected to be at an all-time record of 10.8 million to 10.9 million bpd. But the American decision to issue waivers to eight countries, two of which had already cut their oil imports from Iran almost to nothing, changed the narrative. Russia is playing coy on a return to production cuts; it may participate again, but the successful OPEC+ structure has been disrupted.

The US itself is again the biggest contributor to a supply glut. Despite infrastructure constraints, year-on-year production growth in August was the highest ever, bigger even than in the boom years of 2011-14. Four new pipelines will open from West Texas's Permian basin next year and three more in 2020, releasing a further flood and raising the prices realised by producers in the region, encouraging them to drill more. Net American oil imports next year could be edging close to zero for the first time since the 1940s.

Mr Trump is apparently making a cold political calculation in his calls for lower oil prices. The main producing states are almost all reliably Republican: Texas, Oklahoma, Alaska, North Dakota, Wyoming. Even though Texas these days is more of a battleground, the remarkably unlikeable Ted Cruz still beat rising Democrat star Beto O'Rourke in the latest senatorial elections.

As the US moves closer to self-sufficiency, the impact of lower oil prices on the economy overall is less clear than it used to be – it is probably close to neutral in the longer term. But most Americans benefit directly from lower oil prices, especially in the swing rust-belt states.

There are some important lessons for the major oil producers from this episode. Consumers do not have the tolerance for very high prices that they showed in the first decade of this century. India will be the key global source of future demand growth, but it is not the fuel-guzzling Chinese juggernaut of 2003-08. This will become ever more apparent as electric vehicles and liquefied natural gas-propelled ships gain momentum.

Conversely, despite the International Energy Agency's frequent warnings of under-investment, oil production outside OPEC remains extremely robust. This is mainly down to the United States. OPEC's targeting of unsustainable prices has built up a formidable competitor. Once the well-pads and pipelines and gas gathering systems are in place, American production will be able to grow even at lower prices and even as the "sweet spots" in the shales are tapped.

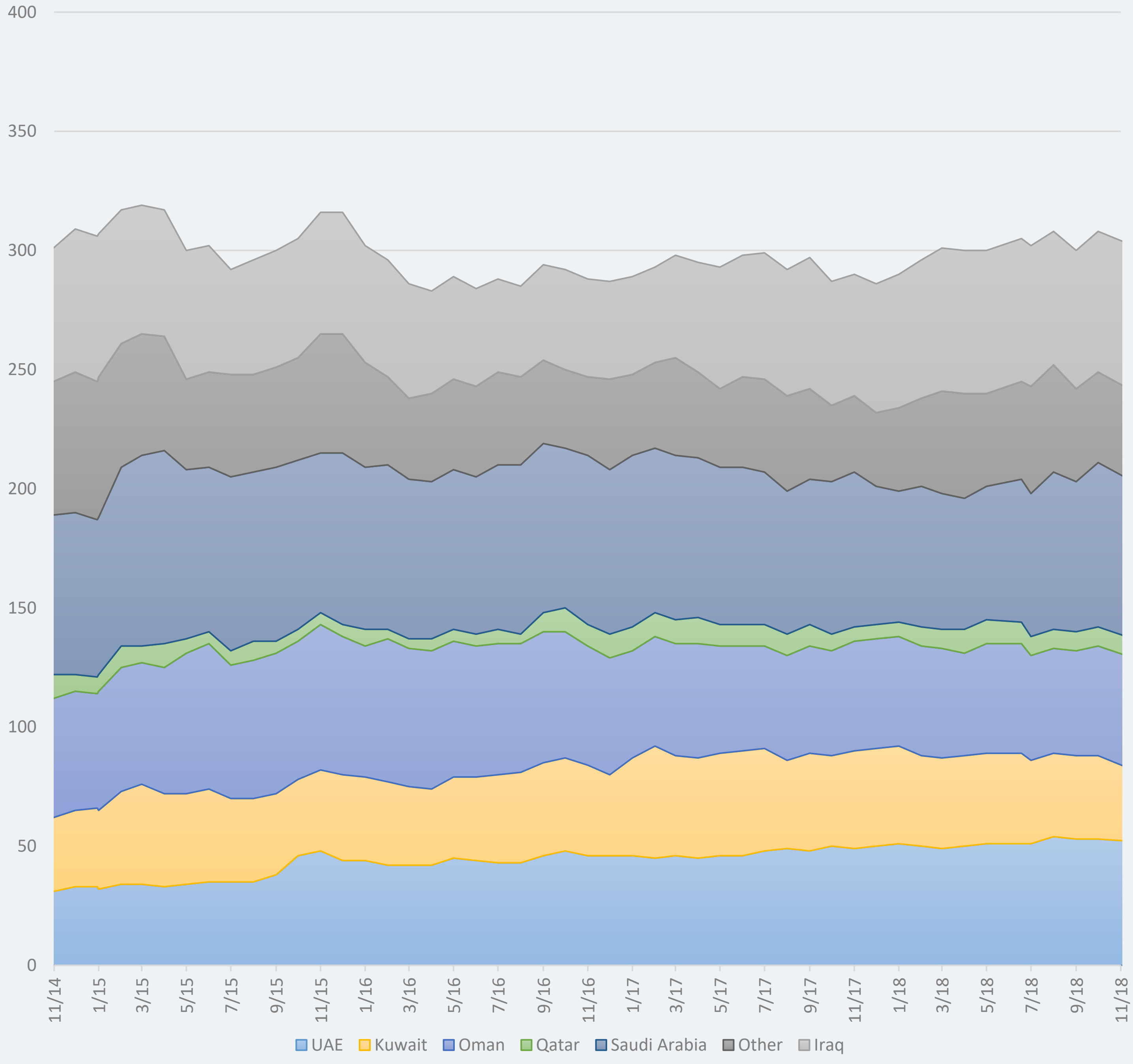
The major international oil companies have also trimmed costs during the 2014-17 slump, making deepwater developments viable again, with Guyana the most striking new area. The recent spike in prices did not live long enough to disturb their discipline.

While prices could well fall further from here in the near term, they will likely recover somewhat next year. The US will continue tightening the screws on Tehran, though Iran still has escape routes. If prices stay lower, it will encourage demand, though contending with headwinds of a trade war, Brexit and an economic expansion running out of puff.

The year 2020 will be interesting. A further flood of very light US oil will meet a market crying out for a heavier diet, of crudes suitable for making diesel and jet fuel, exacerbated by the regulations on shipping fuel that come into effect at the start of that year. The Middle East and Russia are the main suppliers of such grades of oil. Despite a market well supplied overall, refineries will have to work hard to spin straw into gold.

Abu Dhabi's decision to expand its production capacity significantly by 2020 and again by 2030 against the longer-term backdrop, is correct. The market will need its crude and it will gain some paces on its competitors. Since short-lived attempts to keep prices above $80 to $100 per barrel have proved self-defeating, major producers do better to gain market share at moderate prices – and tailor their budgets accordingly.

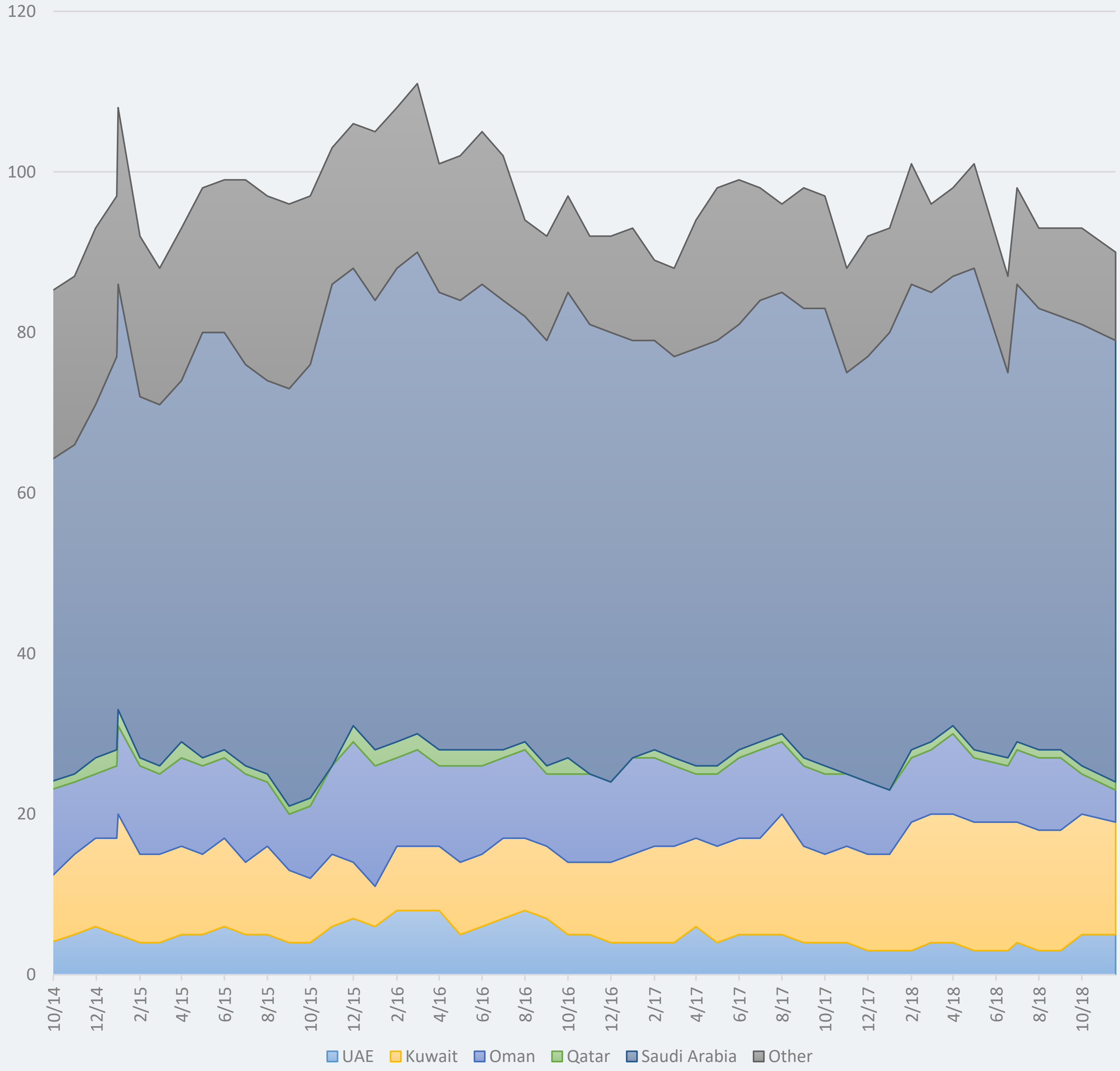
RIG COUNT SNAPSHOT: **OIL**



- The Middle East's rig count in November fell by -6, excluding Iran. Iran's rig count is not included in Baker Hughes; however, OPEC reports total (oil and gas) rig count in Iran has remained steady at 61 throughout 2017, till November 2018, which is questionable as oil production is decreasing with renewed US sanctions.
- Iraq's rig count increased by +2 in November, the highest in 2018, as it ramps up production under the Phase-2 development plans of its southern fields.
- The UAE saw its rig count decrease by -1 in November to 52 rigs, two rigs below its August peak as ADNOC prepares for a 15% and 5% cut in the allocations for the Murban and Upper Zakum and Das grades respectively for January, in line with the recent OPEC decision.
- Kuwait's H2 2018 average of 35 rigs witnessed a sharp decrease of -5. Plans to resume production from the shared Al-Khafji field are now on hold due to political and technical disagreements, despite a preliminary agreement being signed with Saudi Arabia in August.
- Saudi Arabia's rig count fell by -3 in November, despite witnessing a rise of 377 kbpd in production, which took the country's output to 11.1 Mbpd, a record high. The kingdom however announced that it will cut exports by 500 kbpd in December.
- Oman, in contrast to its GCC counterparts, saw its rig count increase by +1, with production reaching a 2-year high of ~1 Mbpd.

Source: Baker Hughes

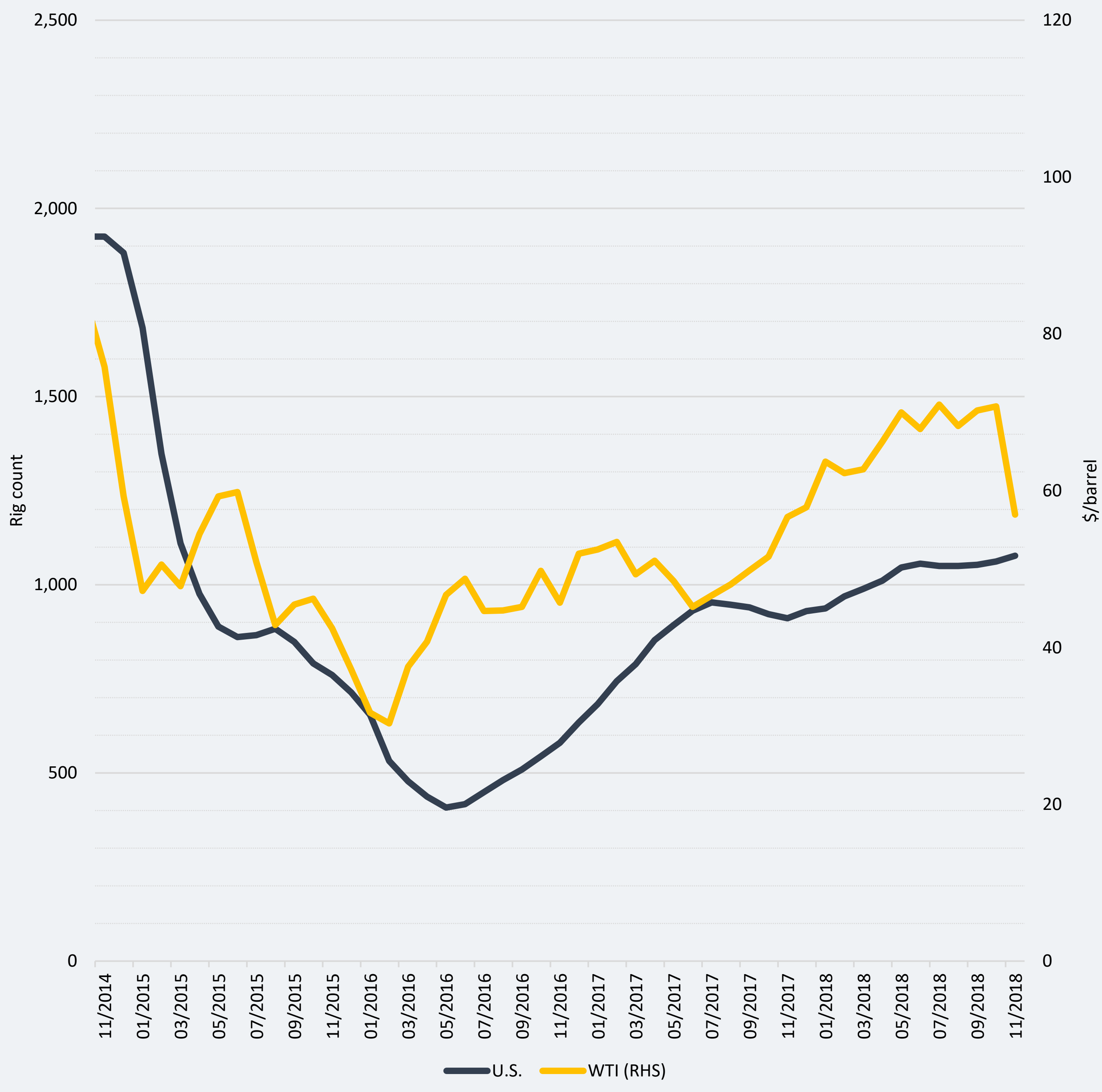
RIG COUNT SNAPSHOT: **GAS**



- The Middle East's overall rig count fell by -3 in November, a drop of -11 from its year high count of 101 in May. The region reached a high of 123 gas rigs in January 2014, but has since then declined, averaging 99 in the last four years. We expect to see this trend reverse as major gas expansion plans have been announced in the UAE, Saudi Arabia, Oman and Qatar.
- Oman's rig count fell for the second month straight since September. This puts Oman to -6 below their April high of 10. Oman agreed expansion of the tight Ghazeer field with BP and signed a gas exploration block (Block 51) with US Occidental which will increase activity.
- Kuwait's rig count fell by -1 to 14 rigs.
- The UAE's rig count witnessed no change from October, when it increased by +2. In November, ADNOC awarded a 10% stake to Wintershall and 5% to OMV in the Ghasha ultra sour gas field for the production of 1.5 Bcf/d of gas.
- Saudi Arabia witnessed no change in rig count in November, maintaining its yearly average of 56, a gain of +3 from 2017's average as the country expands gas production. In September, Saudi Aramco awarded Baker Hughes a $175 M contract to supply 27 gas compression trains to boost production of the Haradh and Hawiyah gas fields.

Source: Baker Hughes

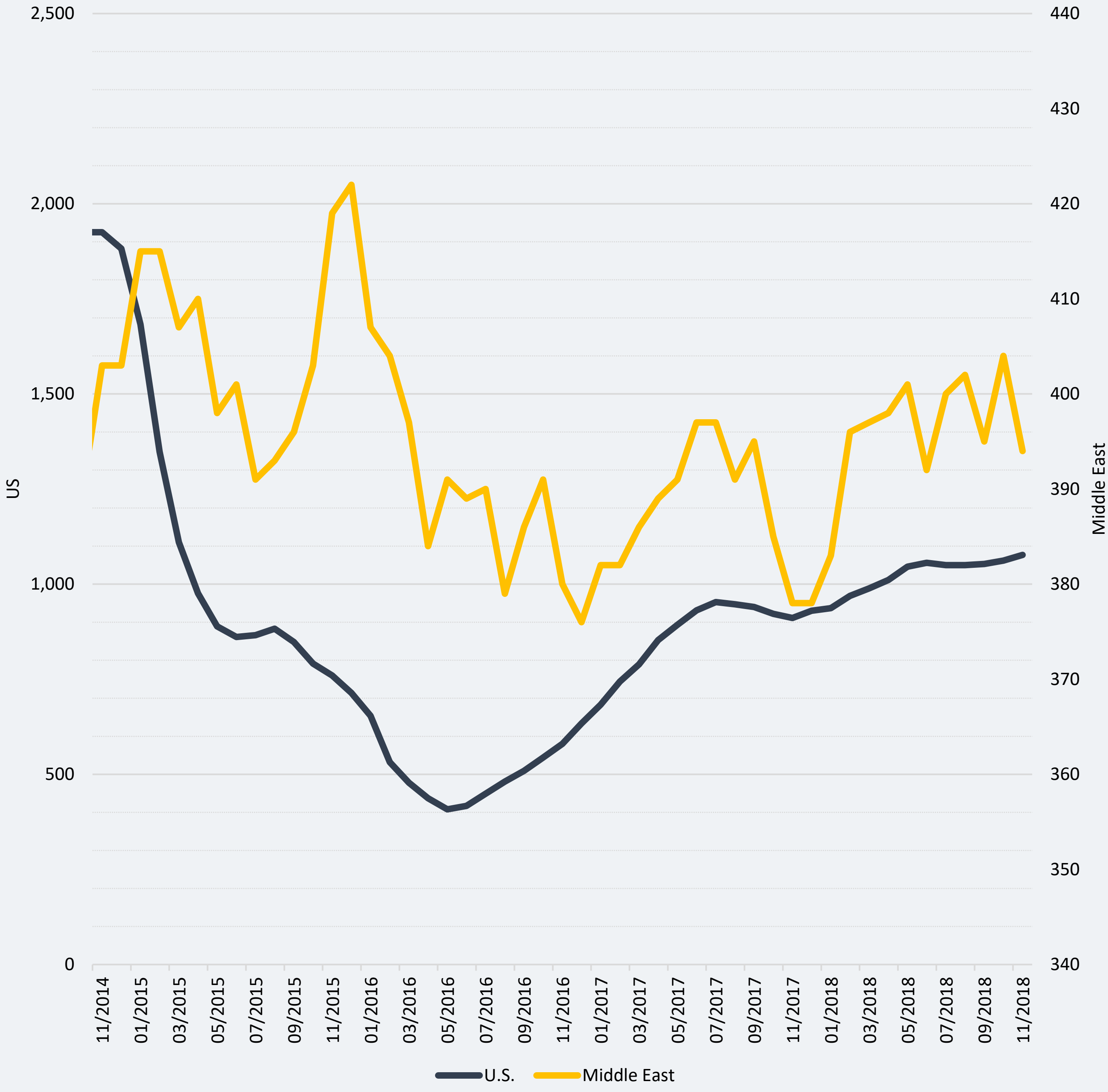
RIGS VERSUS OIL PRICES: US RIGS & WTI



- US rig count jumped by ~15.2% in November (y-o-y), an increase of +166 rigs.
- Total US rig count reached 1077 for November, its fifth consecutive increase, and the highest since March 2015, after producers trimmed spending plans citing softer prices. The country has maintained its rapid recovery since reaching a low of 408 in 2016, averaging about 875 in 2017 and 1027 in 2018. The higher rig count is indicative of future output which EIA expects to average 12.1 Mbpd in 2019, up from an estimated 10.9 Mbpd this year.
- Strong oil prices, before the recent drop, and consequent solid economics for new drilling in the Permian Basin, has led to the steady rise in rig levels in 2018.

Source: Baker Hughes, EIA

RIG COUNT: US & MIDDLE EAST



- The US' offshore rig count gained by +1 y-o-y from October 2017 even though Hurricane Florence had raised concerns of a similar fall in rig count as was observed during Hurricane Harvey and other natural disasters. The country has made a steady recovery since last August, with a fall in its count occurring only in May this year.
- Total Middle East rig count fell below its 2018 average of 396 rigs to 394 rigs largely due to the OPEC cuts. Saudi Arabia is looking to compensate for lost Iranian volumes in the market and will bring 300 kbpd of output online from Khurais, even as it commits to new OPEC cuts, while Iraq is planning to double production from Halfaya in Q1 2019.

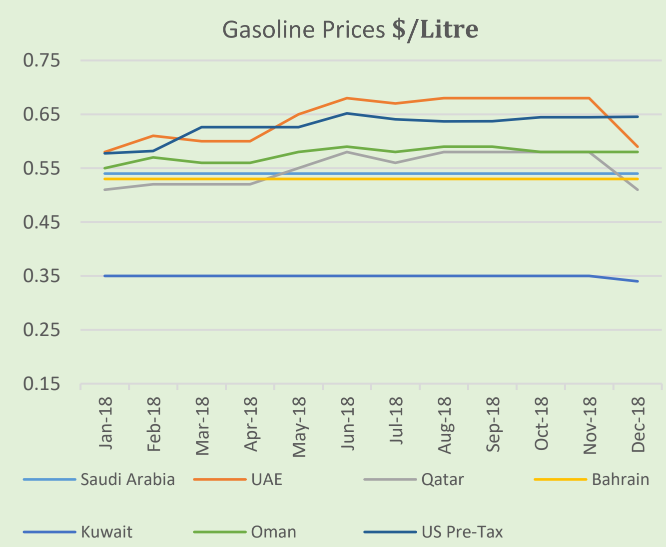
Source: Baker Hughes, EIA

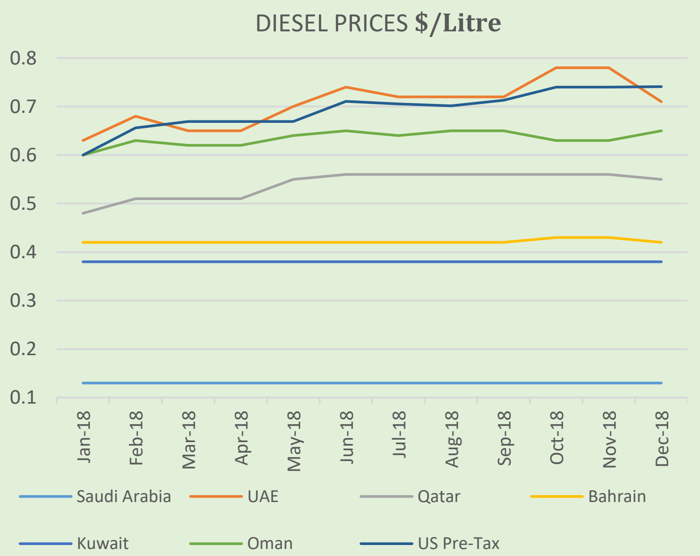
FUEL PRICES & SUBSIDY REFORMS

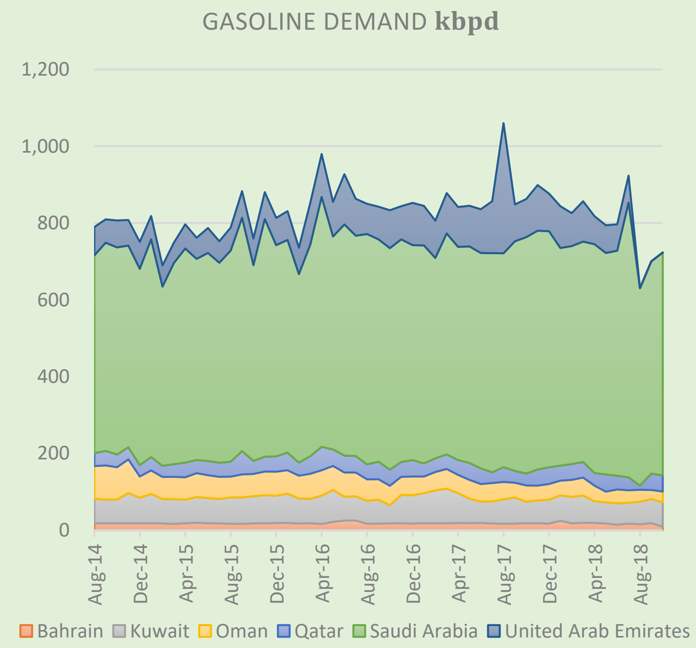
NOVEMBER & DECEMBER 2018

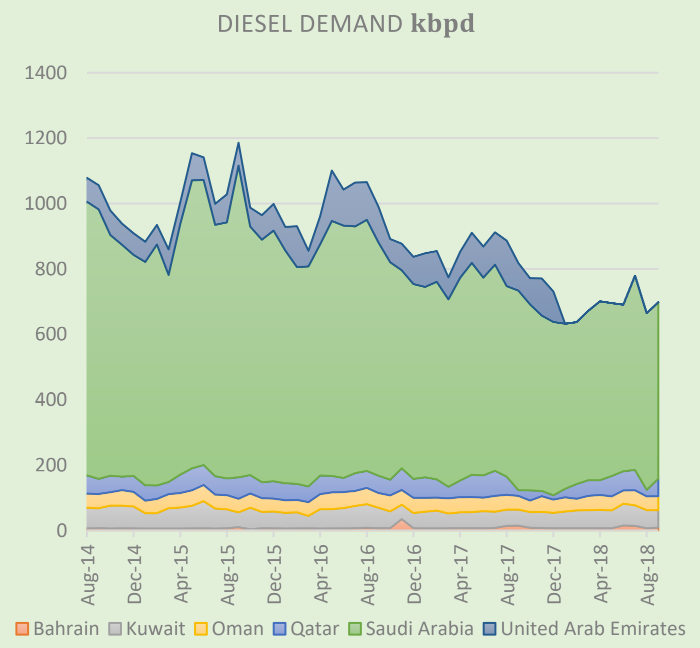
- In the UAE, diesel and gasoline prices fell by ~9% and ~13% respectively in November, the largest drop amongst the Gulf nations. This is in line with falling global oil prices.
- In Qatar, prices for both gasoline and diesel saw their previously stable Q3 prices make significant changes. Gasoline prices fell by ~12%, the steepest decrease this year, whilst diesel prices witnessed a decline of ~1.2%.
- Meanwhile in Kuwait, the Parliament's Financial and Economic committee has approved the cancellation of the decision enforced in September 2016 to raise fuel prices to 'reduce financial burdens on citizens'. Similarly in Bahrain the Council of Representatives urged the government to rethink its fuel price hike just a day after it was approved, finding the change 'too sudden'. On May 27, the High Administrative Appeals Court dismissed the complaint, allowing the Ministry of Oil & Gas to raise fuel prices from September 2018 but this decision hasn't come into force yet.
- In Oman, the prices of gasoline remained stable whilst the price of diesel increased by ~3%. Diesel prices hit a yearly high of $ 0.65/litre, making Oman the only GCC country in November to witness a rise in diesel prices.

The following table represents the prices of gasoline 95 and diesel ($/litre) till December 2018 in the GCC countries.









***Note:** UAE figures for 2018 are not available.*

Source: EIA, JODI, Qamar Energy

KHASHOGGI DEATH LOOMS OVER SAUDI ECONOMIC REFORM AGENDA

Robin Mills • *This is an exclusive excerpt from Robin Mills' article for the Arab Gulf States Institute in Washington, Oct. 22, '18*

The death of Saudi journalist Jamal Khashoggi and scepticism regarding Riyadh's official explanation of how it happened have cast a shadow over Saudi Arabia's economic reform plans. Many high-profile figures have decided to stay away from this week's Future Investment Initiative meeting in Riyadh, including U.S. Secretary of the Treasury Steven Mnuchin, International Monetary Fund head Christine Lagarde, oil historian Daniel Yergin, and the chief executive officers of Uber, Blackstone, and JP Morgan.

However, others such as Andrew Liveris, former head of Dow Chemical, and Siemens CEO Joe Kaeser still plan to attend. For the economy, two questions arise. Will the Khashoggi affair torpedo foreign investment in the kingdom, essential for the success of its reform effort? And will Saudi Arabia's all-important energy sector, and its strategic global role, be affected?

The last two years have seen an effervescent boost in Saudi Arabia's international image. Crown prince Mohammed bin Salman's U.S. tour, the engagements with tech companies and venture capitalists such as Masayoshi Son of SoftBank, and the launch of an ambitious economic and social reform program highlighted the kingdom as the next investment hotspot.

Vision 2030 has so far been headlined by high-profile events, including the "Davos in the Desert" Future Investment Initiative of October 2017, and announcements of mega-initiatives such as the proposed initial public offering of Saudi Aramco, the $500 billion new city of Neom, the ascent of the Public Investment Fund and its purchase of stakes in Uber and Tesla, and the 200-gigawatt solar joint venture with SoftBank.

Yet several of these ambitious plans, lacking the necessary foundations, have been delayed. But what is important for the success of the major initiatives and, even more so, the future Saudi economy, is the dull, unflashy work of economic and regulatory reform.

This would give investors, foreign and domestic, more confidence that their projects can be secure and profitable. Surmounting the conundrum Saudi Arabia faces, as only a few petro-states have done, divides into three parts.

The country needs to diversify its economy. More specifically, it needs sources of economic growth that are not dependent on the oil industry, or on the government recycling oil earnings. Even an expanding oil sector cannot satisfy the economic aspirations of the country's young and growing population, while it continues to expose Saudi Arabia to volatility. And in the not too distant future, action on climate change and the rise of electric vehicles promise some combination of falling oil prices and shrinking or at least stagnating demand.

So, an increasing share of government revenue and national exports have to come from non-oil sectors, which means...

*This is a **preview** of **Robin Mills'** article for the **Arab Gulf States Institute in Washington**, published on October 22, '18. To view the full version, click **here**.*

ARABIA MONITOR ENERGY:

A Collaboration Between Arabia Monitor & Qamar Energy

ARABIA MONITOR ENERGY

Oil and gas tensions in the Middle East continue to influence the volatility of the world's energy markets. The Arabia Monitor Energy, a novel collaborative effort by Qamar Energy and Arabia Monitor, combines macroeconomics, geopolitics and energy intelligence to explain what the region's energy geo-economics mean for business.

WHAT SETS IT APART?

1. INSIDE OPEC

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

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 ANALYSIS

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

UPSTREAM FIRMS

- What are the chief economic, political and fiscal regime 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 future oil and gas pricing trends?
- What developments will intensify or weaken demand?
- What are IOCs' incentives and drawbacks in operating in the country?

ALTERNATIVE / 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?

THE DELIVERABLES

8 MONTHLIES

- Oil Price Scorecard
- Headline Developments
- Spotlight this Month
- Scenarios to Watch
- Projects in the News
- Macro Dashboard for Oil Exporters/Importers
- Outlook for the year

4 QUARTERLIES

- MENA Map as per Political Grouping
- Map of New Licensing Rounds
- Political & Regional Security Issues
- Oil & Gas Prices Outlook
- Global Barriers to Oil & Gas Production
- Deep Dive into OPEC & NOPEC
- MENA Energy Investments
- MENA Energy Fiscal System
- MENA Energy Upstream Bidding map
- MENA Economic Outlook
- Probability Scorecard for Bearish & Bullish Oil Supply/Demand
- Investor Implication Scenarios (Under 3 Oil Price Dynamics)

For Further Information, Contact Us On:

info@qamarenergy.com or
+971 4 364 1232
DUBAI - UAE

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

www.qamarenergy.com

Arabia Monitor Economic Research and Strategy

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QAMAR SUPPLY CHAIN CONSULTANCY

ConProc LEAPING FORWARD

QAMAR ENERGY قمر

40 YEARS EXPERIENCE | 15 COUNTRIES | CIPS CERTIFIED

With a new period of dynamism across the energy sector, cost control, insight into expenditure, and added value from procurement beyond lowest-cost are essential to allow regional companies to stay competitive.

Qamar Supply Chain Consultancy brings more than 40 years of procurement experience and leading-edge solutions across top multinationals to drive efficiencies and added value.

OPERATIONAL COST REDUCTION

IMPROVING OPERATIONS/PRODUCTIVITY

MAXIMISING REVENUE

INCREASING SUPPLY NETWORK AGILITY

DEBOTTLENECKING SHORTCOMINGS

WE TARGET

ENERGY MAJORS
OIL & ENERGY TRADERS
INTERNATIONAL OIL COMPANIES
NATIONAL OIL COMPANIES
UPSTREAM FIRMS
DOWNSTREAM FIRMS

WHY US?

ECONOMICAL OVERHEADS
NO HIDDEN COSTS
INHOUSE PROCUREMENT
PAYMENTS LINKED TO RESULTS
SPECIALISED MODELS
EXECUTION ACROSS FULL STREAM

QAMAR SUPPLY CHAIN

IN-DEPTH GAP ANALYSIS
COSTS ASSESSMENT
RESOURCE MANAGEMENT
VENDOR MANAGEMENT
IN-HOUSE PROCUREMENT
TENDERING & CONTRACT MANAGEMENT

OUR SERVICES

Qamar Supply Chain Consultancy streamlines the management of procurement and sourcing in the Middle East's energy sector to drive efficiencies and added value. Our extensive regional and global network spans every sector of the energy spectrum: upstream, midstream, and downstream.

We complete our diagnostic and recovery services in one full week, followed by a detailed value and costs assessment to strategise procurement and categorise spend. The final execution and implementation of our changes is always personalised to different needs, and can span a period of 4 to 12 months.

OPEC WATCH

AVERAGE CRUDE PRODUCTION FOR NOVEMBER 2018

32.96 Mbpd

- 11 kbpd

From October 2018

Non-OPEC Oil Supply*

67.67 Mbpd

+ 1.35 Mbpd

from October '18

*including OPEC NGLs

Non-OPEC Crude Output

United States

Brazil

Canada

OPEC & Non-OPEC COMPLIANCE

- Overall OPEC compliance was above 100% for November, however slipped from 121% in October to 111%, as the UAE, Saudi Arabia, and Kuwait increased production.
- Russia is producing at near records (around 11.35 Mbpd in November, down from 11.41 Mbpd in October) while Kazakhstan hit an all-time high of roughly 1.9 Mbpd.
- Iran was not obliged to make any production cuts as the Nov 4 sanction kicked in. Saudi initially fought to include Iran in the cuts however to no avail. Despite being exempt from cuts, Iran will face an uphill battle trying to increase production as it becomes isolated from financial markets. Libya and Venezuela were exempted from the new cuts, but Nigeria has now joined the OPEC cuts.
- Venezuela's compliance remained over 600% throughout 2018. Production is expected to decrease significantly in 2019 as well, going below 1 Mbpd.
- Oman had a 33% compliance, the second highest compliance rate amongst the GCC states (after Qatar).

NEXT OPEC MEETING: April 2019

176th (Ordinary) OPEC Meeting in Vienna, Austria

LATEST ORGANISATIONAL CHANGES

- At the 175th Ordinary OPEC meeting on December 7th in Vienna, OPEC members decided to decrease overall production by 0.8 Mbpd from October 2018 levels effective as of January 1, 2019.
- Voluntary contributions from Non-OPEC members will be 0.4 Mbpd putting the total production cuts to 1.2 Mbpd.
- The agreement is slated to stay in force till the 176th Ordinary OPEC meeting in April 2019.
- Qatar has formally stated that it will leave OPEC after 57 years in the organization, a move that is widely regarded as a jab to popular Saudi policy regarding oil production.

OPEC PRODUCTION

- Libya's production has maintained above its yearly average of 1 Mbpd after reaching a 15-month low of 664 kbpd in July. It currently is producing 1.104 Mbpd. Nigeria's production fell by 30 kbpd in November, drifting further below its 1.8 Mbpd OPEC quota.
- Iraq's output witnessed a slight decline from the previous month as the country battles to reach its 2019 targets. Infrastructure issues and renewed civil unrest at southern oilfields continue to hinder its goals.
- Saudi production increased the most of all OPEC members (by 377 kbpd) to over 11 Mbpd, nearly 1 Mbpd above its production target. Output should now reduce by 0.4 Mbpd from its October level as the new OPEC cuts come into force.
- Iran saw a dramatic drop in production as it begins to feel strains from the recently imposed US sanctions. Production decreased by 380 kbpd.
- Amongst the GCC OPEC members, the UAE's production gains were second to Saudi Arabia's in November, increasing by 71 kbpd, bringing its compliance further down to -168% from -106% last month.

KEY MENA ENERGY SCORECARD

NOVEMBER 2018

QATAR DEVELOPMENTS

Qatar has formally exited OPEC in a move that is largely regarded as a pro-US, anti-Saudi strategy 3 days before Sheikh Tamim bin Hamad al-Thani turned down an invitation to attend the 39th GCC Summit in Riyadh; following the exit, Qatar Petroleum (QP) announced it will invest $20 B in energy projects in the US (both LNG and oil) which should strengthen political alliances; QP has signed a deal with Eni to acquire a 35% stake in three fields in Area 1 of the Campeche Bay complex offshore Mexico, increasing its overall share in Area 1 to 50%; QP also signed a deal to enter three blocks with ExxonMobil offshore Mozambique; QP will take over the Idd el-Shargi North Dome oilfield from Occidental once the PSA expires in October 2019; QatarGas will supply PetroChina with 3.4 Mtpa of LNG under a 20-year deal from the QatarGas-2 Project.

MENA ENERGY PRICE REFORM

UAE will gradually scrap subsidies on electricity and gas sold to power generators to reflect 'real' prices by 2030; In May the Bahrain High Administrative Appeals Court dismissed the Council of Ministers' complaint to rethink a fuel prices hike, allowing the Ministry of Oil & Gas to raise fuel prices from September 2018, but this has yet to take effect; On June 16 Egypt announced increases in fuel as a part of its $12 B IMF loan: M92 and M95 gasoline saw a hike of ~36% and 16.2% and electricity and water prices rose by 26% and 5% respectively; Saudi Arabia introduced the Citizen's Account Program, a cash handout scheme for low-income Saudi citizens impacted by rising fuel prices, electricity tariffs, and VAT.

FEDERAL IRAQ DEVELOPMENTS

Iraq has increased production from the PetroChina-operated Halfaya oilfield by 100 kbpd to reach 370 kbpd after the launch of a new 200 kbpd oil processing facility; production from the field shall reach 470 kbpd in Q1 2019, in line with the country's plans to reach a production target of 5 Mbpd by end-2019; Basrah Oil Company (BOC) has contracted China's Bohai Drilling Company to drill 28 additional wells at the Lukoil-operated West Qurna-2 field to increase production to 480 kbpd by 2020; isolated protests in late November took place at the fields of West Qurna-2, Halfaya, and Ratawi due to disagreements regarding the service contracts for the fields but were quickly contained; PetroChina temporarily closed the gates to the main camp and three gas stations; production remains stable and unaffected.

MENA NUCLEAR POWER

Saudi Arabia is assessing two potential sites – Umm Huwayd and Khor Duweihin – for its first nuclear power plant project near UAE and Qatari borders and has shortlisted Rosatom and KEPCO: tendering will face delays likely due to technical plans, and commercially due to negotiating nuclear agreement with the US, even though MBS launched a programme for the Kingdom's first nuclear research reactor on November 05; The UAE's Barakah plant will begin loading fuel in 2019 (delayed from May 2018), and the plant will now generate electricity only by 2020 due to delayed operational readiness; overall completion is just under 90% (Unit 1: 100%, Unit 2: 94%, Unit 3: 86%, Unit 4: 77%); Egypt and Rosatom will begin construction on the $21B Dabba nuclear plant in 2021 with financial support from the Russian National Wealth Fund.

No Change ⇔ Very Positive
Deterioration in the last month ⇩ Positive
Negative
Improvement in the last month ⇧ Very Negative

KEY MENA ENERGY SCORECARD

November 2018

ENERGY INFRASTRUCTURE SECURITY

On December 09 Libya declared force majeure at the Sharara oilfield after a local militia group took control of the field, raising concerns of outages at the nearby 73 kbpd El Feel field which is powered by Sharara; total expected loss is ~315 kbpd, a major blow for Libya who has in recent months reached its annual average of 1 Mbpd in production after reaching a 15-month low of 664 kbpd in July; IEDs discovered on the access roads of southern Iraqi oilfields have been linked to the existence of an armed group aiming to sabotage oil facilities but production remains secure and unaffected.

IRAN DEVELOPMENTS

Iran's production fell by ~380 kbpd from October after sanctions came into effect on November 04; India, South Korea, Japan, China, Turkey, Greece, Italy, Taiwan, and Iraq received temporary waivers to continue buying oil from Iran and not risk disbalancing the market; CNPC has allegedly suspended investment into its newly acquired South Pars field after purchasing it from Total who pulled out of the project due to sanctions; CNPC's withdrawal is a blow to Iran's investment-bereft energy sector; In December, Iranian Light is set to trade at a premium of $1.30/bbl to the average of Oman/Dubai assessments, down by $0.1/bbl, to Asia to secure a wider market, while the Iranian Heavy, Foroozan and Soroush grades will trade $0.2/bbl, $0.2/bbl, and $0.4/bbl higher respectively in December for Asian shores.

ABU DHABI DEVELOPMENTS

ADNOC has granted Total a 40% interest in the Ruwais Diyab gas concession; The terms grant Total a 6 to 7-year exploration and appraisal term followed by a 40-year production period; ADNOC awarded Italian major Eni a 25% stake in its offshore ultra-sour gas Ghasha concession which will produce 1.5 Bcf/d by 2025; ADNOC will increase its oil production capacity to 4 Mbpd by end-2020 and 5 Mbpd by end-2030 due to new discoveries of 1 Bbbl OOIP reserves; ADNOC is setting up a new refined products trading unit to deviate from its FOB-selling model and expand its downstream sector; On November 12 ADNOC and Aramco signed a framework agreement to explore opportunities for collaboration in natural gas and LNG; ADNOC has also signed a preliminary agreement with the Indian Strategic Petroleum Reserves (ISPRL) Company to store its crude at 2 of the firm's underground oil storage facilities in India.

KUWAIT DEVELOPMENTS

KOC has signed a $1.3 B deal to purchase 81 oil rigs as it aims to increase production to 4 Mbpd by 2020; Talks with Saudi Arabia to restart up to 500 kbpd of locked-in production from the Neutral Zone fields of Khafji and Wafra by end-2018 are now delayed and unlikely to proceed ahead before 2019 due to political and technical disagreements; KOC is planning to launch an Integrated Drilling Services tender for 29 Jurassic wells; Kuwait will increase production of its newly launched Kuwait Super Light to 250 kbpd by 2023 from the current 175 kbpd.

No Change ⇔ Very Positive
Deterioration in the last month ⇩ Positive
Negative
Improvement in the last month ⇧ Very Negative

MENA RENEWABLE ENERGY

The European Bank for Reconstruction and Development (EBRD) is lending $265 million to Jordan's National Electric Power Company (NEPCO) in backing of greener energy generation; The long-term loan is expected to refinance NEPCO's short-term debt and fund investments in additional grid capacity that can support solar energy that is to be fed into the grid and directed towards high demand areas; Danish wind turbine manufacturer Vestas has secured an order for fifteen 3.45 MW wind turbines for Jordan's Tafila facility; Tunisia's government has prequalified 16 companies for a 500-MW solar tender and 12 parties for a 300-MW wind auction, including Masdar, Canadian Solar, Engie and ACWA Power; French renewable power plants operator Voltalia has started construction on the 32 MW Ra Solar Plant that will be part of the Benban complex in Egypt's Aswan governorate; Masdar has submitted the lowest bid for Saudi Arabia's Dumat al-Jandal wind plant ($c 2.13/kWh), with the second lowest bid placed by Engie ($c 2.365/kWh); the winning bid is expected to be announced later in December.

MEDITERRANEAN GAS COMMERCIALISATION

Mubadala has acquired a 20% share in ENI's 45% stake in the Nour offshore concession in Egypt, marking its second acquisition in the country; BP has acquired the remining 25%; ENI has come up dry at its Rabat Deep 1 (RD-1) well offshore Morocco, having encountered tight, fractured carbonates at a depth of 3180m; the company agreed to develop a gas pipeline in southern Algeria, to link Eni's two producing oilfields in the Berkine basin, Lajmat Bir Roud and Menzel Lejmat, and enable a surplus of 7 Mcm/d of production; London-based SDX Energy announced a new gas deposit in Egypt's South Disouq region, which holds 89 feet of net conventional natural gas pay in the Abu Madi horizon; production is expected to start by end-2018; Eni announced a gas discovery in the East Obayed concession located in the Egyptian Western Desert on August 30; the discovery has been opened to production of 25 Mscf/d; ExxonMobil has started test drilling in its Block 10 concession offshore Cyprus, irking Turkey; Total and Eni have also announced a joint bid to explore offshore oil and gas in Block 7 offshore Cyprus despite Turkey's claims over the area; Eni has increased production at its supergiant Zohr field offshore Egypt to 2 Bcf/d following the start-up of a 5th production unit; Tarek el-Molla has said that production will reach 2.7 Bcf/d by end-2019, enabling Egypt to halt all LNG imports.

No Change ⇔ — Very Positive
Deterioration in the last month ⇩ — Positive
Negative
Improvement in the last month ⇧ — 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, and a non-resident fellow at the Columbia Center for Global Energy Policy. He holds a first-class degree in Geology from the University of Cambridge, and speaks five languages including Farsi and Arabic.

RECENT APPEARANCES & TALKS

S&P Global Platts — **Platts' Middle East Executive Petroleum Conference** • *Panel discussion on* ***Evolving Middle East Trade Flows Now & in the Future***

EU Delegation — **EU Delegation Trade Counsellor Seminar** • *Presentation on* ***MENA Energy Landscape***

Qamar Energy
HDS Business Centre, Cluster M
Jumeirah Lakes Towers
Dubai, United Arab Emirates
+971 43641232
info@qamarenergy.com
www.qamarenergy.com
@qamarenergy

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