

Energy Outlook

SECOND QUARTER 2019

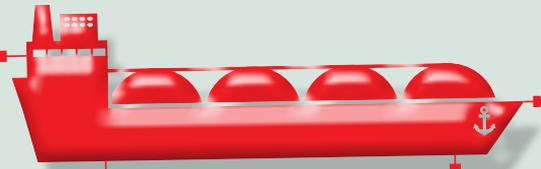
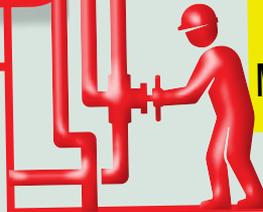
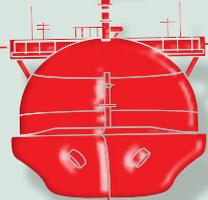
**BREAKING NEW
GROUND PAYS
- LITERALLY**

By Hatem Al Mosa, CEO, SNOG



**ENERGY TRANSITION
GETTING IT RIGHT?**

By Raoul Restucci,
Managing Director, PDO



MIX & MATCH

**HOW TO ADAPT TO CHINA'S
SLOWING GDP GROWTH?**

Vitol, Xergy and Incosta Petroleum
Services share the latest



BUILD YOUR OWN ENERGY TRANSITION SURVIVAL KIT?



HIT THE DIGITAL ACCELERATOR

By Georg Harwalik, Head of Exploration,
Development & Production MEA, OMV

**DIVERSIFICATION IS
THE ONLY ANSWER**

Interview with Sara Akbar,
Chairperson & CEO, OILSERV, Kuwait

NOCS UNITE AMID WINDS OF CHANGE

By Abd Malik Jaffar, Regional Director,
PETRONAS Subsidiaries Middle East, PETRONAS



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The Game is Changing... *But are You?*

BY SEAN EVERS

Managing Partner, Gulf Intelligence

\$1 trillion.

THAT'S THE ANNUAL economic reward of the great energy transition. It wouldn't matter if oil

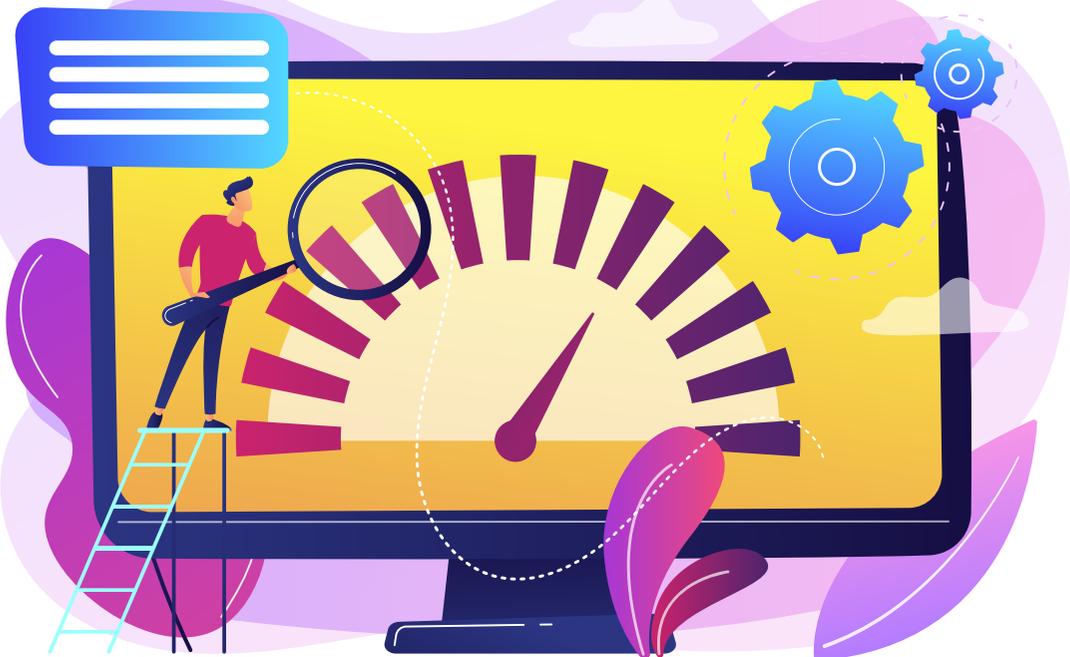
prices were in the \$200s/bl, a reward that hits trillion territory deserves attention (not to mention Gulf countries' signatures on the dotted line of the Paris Agreement).

But there's still much yawning going on; 79% of respondents to a GIQ Industry Survey said there's a risk of getting left behind and not being part of the 'T-Club'. If Gulf countries want to keep their ace card in the global energy game, historically powered by fossil fuels only, they need a new – more diversified – set of cards. The game has changed; aspiring 'T-Club' members must too.

One rule? Don't have short arms and deep pockets! Yes, the International Monetary Fund (IMF) has cut 0.4% points from global growth this year and the outlook is uncertain (as always) and yes, frosty politics remain (as always) and chatter about peak oil is intensifying (as always). But the bullish signals to release funds – for black gold, LNG, renewables, digitalization and everything else in the 'energy transition' pot – are there. The oil price is stable (cue suspicion from an over-stressed market), China is still posting a whopping 6.3% GDP growth this year and US shale producers are joining the fold of global oil producers (ish). Sharjah shows the benefits of upstream spending, as new digital applications release the gold dust of decade-old discoveries.

Dollar signs are also looming as the tick-tock of the IMO 2020 clock to reduce sulfur levels in global bunkering gets louder and louder; January 1, 2020 is just months away. With compliance triggering an additional \$60 billion in bunker fuel costs, it's little surprise that the market in the Middle East and beyond bears an unrelenting uncurrent of 'Yikes!'. Acceptance is now certainly there, but is the change? Watch this space. ■





The Next Chapter in Oil Benchmarks? Watch This Space

BY DAN COLOVER

Market Engagement Manager Middle East, S&P Global Platts

WHAT CAN BE GUARANTEED looking at well-trodden mountain range paths? All are interconnected. Consider that the range represents the global oil market and that each path is an oil price benchmark. No benchmark works in isolation, each act as a 'guide' to offer market participants the necessary transparency to trek the summits of success in trading ecosystems. The robustness of these symbiotic relationships – in the Middle East and beyond – has a major bearing on the black gold market. Three benchmark markets largely define global crude oil trading – Brent, West Texas Intermediate (WTI) and Dubai – with Brent having the widest and deepest global reach of the three.

3
The number of benchmarks that largely define global crude oil trading – Brent, WTI and Dubai.

#1
Brent has the widest and deepest global reach of the three.

SHIFTING SANDS

Change is constant but the next 12 months will be particularly busy for the global oil community (see: *IMO 2020: Tick Tock*). Plus, looking to meet the continuously growing demand for crude in Asia, traders are increasingly arbitraging the grades that go into Dated Brent, moving them from North West Europe to Asia. Flows of Middle Eastern crude to Asia are also rising with vessels travelling from the Middle East to Asia often stopping for bunkers at the UAE's Port of Fujairah – the world's second largest bunkering port. IMO 2020 may also change the balances of bunker sales at the world's leading bunker ports.

The staggering growth rate of US crude oil exports, which S&P Global Platts Analytics

Change is constant but the next 12 months will be particularly busy for the global oil community. Don't just transmit – make sure you listen too."

estimates is currently around 2.4 million b/d and forecasts to rise to almost 4 million b/d by 2020, has dramatically altered global crude flows, with many newer Chinese refiners seeking the light, sweet grades earmarked for export. It is the rise of crude exports from the US that has also re-established WTI credentials as a major benchmark.

Since the 1980s, Platts Dubai has been the primary pricing reference for crude oil delivered to Asian refineries from supplies coming from the Middle East Gulf. With deep financial markets available for hedging and an unrivalled track record as the sour crude benchmark of choice East of Suez, Dubai's influence and importance has seen remarkable growth through the years.

It is the spread between the different crude benchmarks that drive traders' behaviors and their value is reflective of the characteristics of the different grades of crude that make up the basket of crude that can be delivered into each benchmark.

Clear communication ensures that the relevance and transparency of a benchmark are widely and fully understood – vital in this



IMO 2020: Tick Tock

The implementation of the International Maritime Organization's (IMO) new sulfur limit of 0.5% for marine fuels, down from 3.5%, from the first day of 2020 will have ramifications for refiners around the world, which in turn affects the producers of different grades of crude. The economics of sourer and heavier grades – predominantly associated with the Dubai benchmark – and the relationship with lighter grades, which go into the Dated Brent benchmark, are expected to vary considerably in the years ahead.

multifaceted market. Therein lies the value of consultations that focus on listening – rather than just transmitting – with a varied group of stakeholders that encompasses producers, refiners, trading houses and many others. The more feedback, the better the pathways will be for those traversing the mountain range in search of energy security and economic prosperity. ■

4mn

The US' current crude oil exports of 2.4 million b/d could reach almost 4 million b/d by 2020. This staggering growth rate affects global dynamics – and benchmarks.

\$60bn

The estimated price of compliance to IMO 2020 could reach \$60 billion per year. This demanding cost carries extra punch amid guessing games over the oil price.

Global Influence

Dated Brent is the most widely used and robust benchmark for physical crude oil, which means changes to it has importance worldwide. Ensuring the benchmark evolves to remain robust and well supplied to all market participants for the next decade and beyond is critical to the global oil community. As markets evolve, so too must benchmarks. Relevance and

transparency are essential. A key part of S&P Global Platts' active stewardship of Dated Brent is to continue to engage extensively with market participants. We recently proposed to reflect competitive offers of the five North Sea BFOE grades that comprise Dated Brent (Brent, Forties, Oseberg, Ekofisk or Troll) on a CIF (Cost Insurance & Freight) basis delivered into the major hub of Rotterdam as well as the

current FOB (Free On Board) loading basis effective November 2019-loading cargoes. The potential inclusion of the BFOE crudes on a delivered Rotterdam CIF basis, would ensure that every barrel of the grades currently reflected in Dated Brent is able to play the fullest possible role in establishing the value of North Sea crude.

We believe these changes will strengthen Dated Brent as a global benchmark to ensure it remains relevant for participants to value

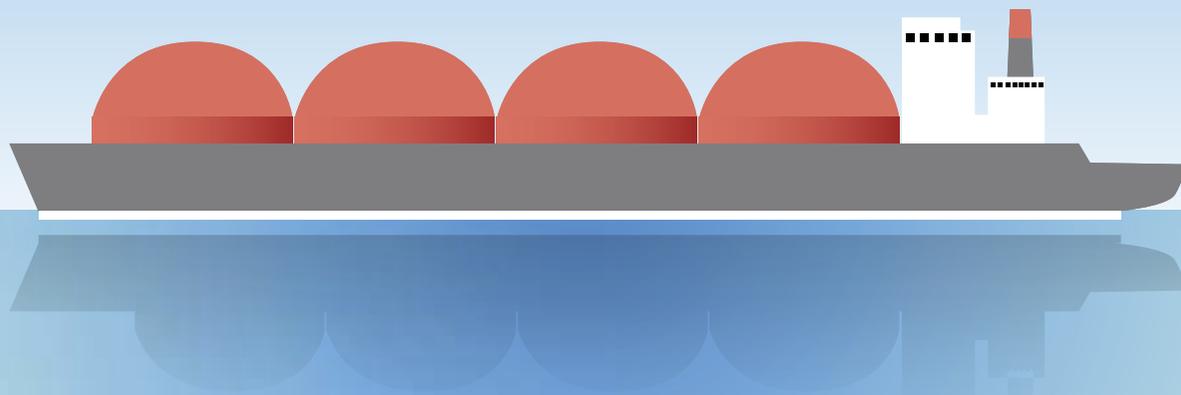
term contracts and exploit arbitrage opportunities (including in the Middle East). In addition, Platts continues to consult with market participants on the potential inclusion of other grades beyond the current five in Dated Brent. While we observe regular trade flow into the Northwest European region, trade practices are still evolving and becoming more transparent.

LNG

Sustaining Momentum is Vital

BY JOHN ROPER

Chief Executive Officer, Middle East, Uniper Global Commodities SE



LNG IS ONE OF THE MOST lucrative commodity stories of the century. Questions over whether the current surge in renewables could invalidate the billions of US dollars being spent on upgrading gas and LNG infrastructure are erroneous, albeit understandable.

Whispers in 2017 of a global recession turned into talk in 2018, not helped by the International Monetary Fund's (IMF) recent pull back on its global growth for the second time in a matter of months. Combine this with uncertainty over the oil price and views that the risk-reward balance of today's major foreign direct investments (FDI) in energy infrastructure are imbalanced are valid.

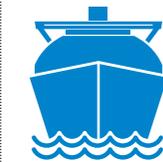
But not for LNG; the market has successfully positioned itself as an integral player in the global energy transition towards a lower carbon world. It has emerged as the affordable and sustainable bridge between traditional and new energy projects – fossil fuels and renewables – that are both integral to energy security in the Middle East and beyond. Global LNG trade alone increased from 100 million tons in 2000 to nearly 300 million tons in 2017, according to Shell. In the Middle East, gas and renewables together contribute 78% of incremental energy demand up to 2040, with natural gas demand alone rising by 55%, according to BP Outlook.

China has taken the lead in LNG demand, with imports growing by 45% in 2017 to 38 million tons. Early estimates suggest it may have reached 52 million tons in 2018, according to Wood Mackenzie. This is very good news for leveraging the historic ties and track record of reliance that Qatar, the world's biggest LNG exporter, enjoys with Asia. It remains to be seen how much weight should be given to the impact that the Power of Siberia pipeline will have on demand for LNG imports from the Middle East and the depth of concerns over China's economic slowdown. As always, context is essential for China is hardly pleading poverty. The country will post 6.3% growth in GDP this year, one of the highest levels worldwide, according to the IMF. Comparatively, the UAE's GDP growth is expected to be 2.8%, Kuwait is 2.5% and Saudi Arabia is 1.8%. Clearly, China's demand is a relatively safe bet for Middle Eastern exporters this year.



\$240bn

How much IMO 2020 is expected to cost consumers.



70

The global LNG shipping fleet saw its biggest expansion in 2018, with the delivery of more than 70 new LNG carriers.



6.3%

China will post 6.3% growth in GDP this year, one of the highest levels worldwide – yet many are worried it's lower than the usual double-digit growth. Beijing's wealth will have a leading impact on the LNG market in the early 2020s; watch this space.

All Aboard?

One of the major and fastest growing applications of LNG and its role in helping decarbonize the energy sector is in mobility – both on land and sea. Appetite for LNG for trucks in the logistics industry will rise in the 2020s, as will demand for LNG bunkering in response to the International Monetary Organization's (IMO) new sulfur limit of 0.5%, down from 3.5%, which starts on the 1 January 2020. LNG bunkering has many pros; it has a negligible sulfur content, generates less NOx and CO₂ and it is cheaper than compliant fuel oil. This is especially pertinent against a background of soaring costs; Goldman Sachs expects the total impact of IMO 2020 to

consumer wallets could reach \$240 billion. The global LNG shipping fleet saw its biggest expansion in 2018, with the delivery of more than 70 new LNG carriers of more than 8 million cubic meters, versus 4.1 million cubic meters in 2017, said S&P Global Platts. But this is only the beginning. Why not have marine filling stations in the middle of shipping lanes to ease traffic and costly infrastructure demands at ports? Taking the lead on such ideas that can radically shift the metric of flexibility and security would reinforce many Gulf countries' National Visions to become globally competitive and knowledge-exporting economies.

LNG supplies via floating storage and regasification units (FSRUs) will also be paramount in keeping the lights on in the Middle East – literally. Power capacity in the Middle East and North Africa (MENA) must expand by an average of 6.4% each year between 2018 and 2022 for energy security. This corresponds to an additional capacity of 117GW at a price tag of at least \$152 billion, detailed Saudi Arabia-based Apicorp. The adage of 'build it and they will come' does work; the Port of Fujairah opened in 1983 and is already the world's second biggest bunkering hub.

So, what are the top three ways to optimize LNG and gas infrastructure in the Middle East by 2025? Respondents to a Middle East LNG Institute Industry Survey said access to regional pipelines (35%), greater coordination at the UAE/GCC level (35%) and more short-term contracts (30%) are key. Falling behind on such plans will put the Middle East – bar Qatar – on the back foot in the global LNG market. The key message? Sustain momentum. ■

Local Supply Chain Make it Count!

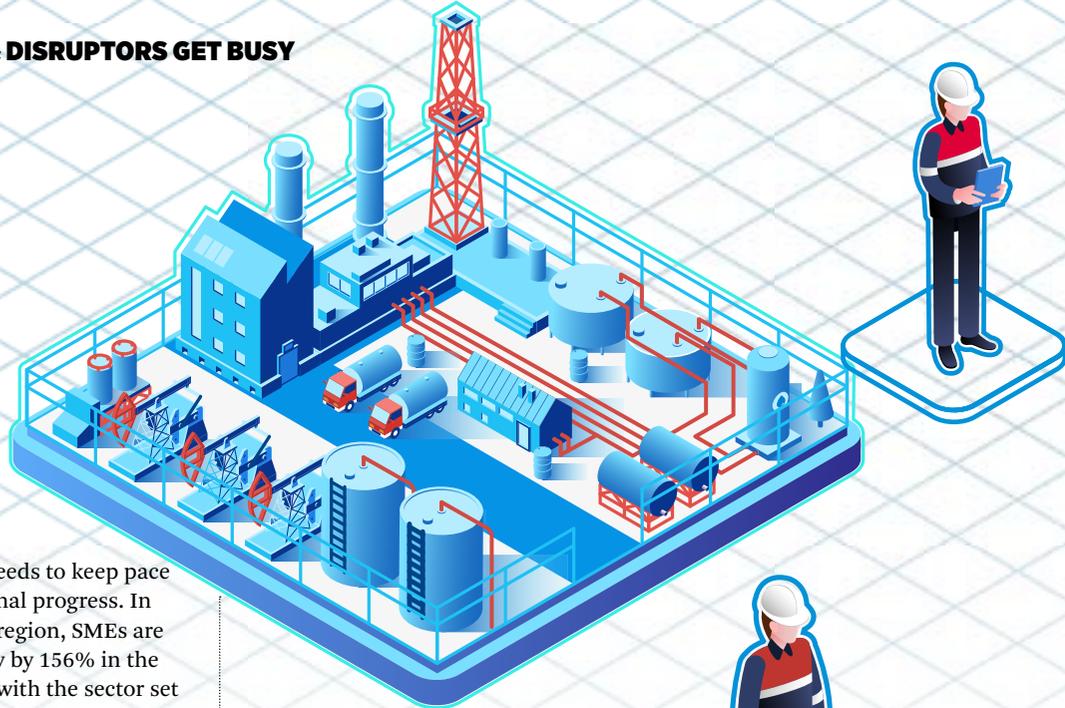
BY CHRIS BREEZE

Shell Country Chairman & General Manager, Shell Development Oman LLC



MANY HANDS MAKE LIGHT WORK. A VITAL ETHOS TO THRIVE in the great energy transition, as fossil fuels and renewables emerge as two sides of the same coin. Worldwide, local supply chains are often the unsung champions of affordable and sustainable growth.

Muscat must keep turning up the volume. Local expertise is an engine for growth; one that can tick over or one that can roar. The latter requires the celebration and increase of local entrepreneurs and small and medium-sized enterprises (SMEs). Team work lies at the heart of success, as best said by His Majesty Sultan Qaboos bin Said on the day of his accession on 23 July 1970: “My People, I will proceed as quickly as possible to transform your life into a prosperous one with a bright future. Every one of you must play your part towards this goal.” This still rings true, nearly half a century later.



Oman also needs to keep pace with international progress. In the wider GCC region, SMEs are forecast to grow by 156% in the next five years, with the sector set to be worth \$920 billion, according to MENA Research Partners (MRP) last year. The SME sector in the Gulf will employ 22 million people by the early 2020s – gold dust for a region with high unemployment rates and endless potential for ground breaking ideas.

Accordingly, Shell Oman has been a key participant of in-country value (ICV) for nearly six decades through its joint ventures. The stronger the sultanate's talent pool, the more ground breaking the results. Omanis account for more than 85% of the in-country workforce in Shell

companies in Oman. In 2018, Shell provided more than 66 training, further education and on-the-job development opportunities for our employees and the next generation of Omani professionals. We are far from alone; many in industry make a meaningful effort. In 2018, Petroleum Development Oman (PDO) has fully Omanized its hoist fleet for the first time after agreeing contracts with five local companies worth more than \$800 million. Another ICV highlight from PDO is its National Objectives programme,



which seeks to create more than 50,000 employment opportunities for Omanis since its launch in 2011. Shell Oman Marketing Company has provided more than 120 opportunities for local companies to be retailers and operators across its strategically located service station network in Oman.

MORE CHOICE?

The Oman Power and Water Procurement Company (OPWP) has been very successful at tendering central generation and providing the bulk of supply for the sultanate. Historically, the government's greater control has worked well for two reasons. Firstly, to ensure an affordable balance between demand and consumption, with a 6.5% surplus acting as a buffer for



“The sands are forever shifting. A quarter of a century ago, chemical engineering was largely focused on raw materials and commodities. Today, it is primarily focused on specialty chemicals.”

forecasted peak demand. In the last fifteen years, generation has only dipped below consumption once. Subsidies are the second reason; the government has had to keep a firm eye on spending to sustain this privilege.

But there's a catch. The current regulatory framework in Oman means one can only sell electricity to OPWP, and only if it is generated by a project that has been tendered by OPWP. Consequently, all immediate solar generation, especially larger projects, will likely be awarded to the lowest tariff for the tender. This risks diluting the sustainable ICV impact of a project, including the inclusion of the local supply chain. What can be done to broaden the profile of participants in this tender process?

As energy demand grows and the country's subsidy program is reshaped, an architecture with the option for distributed generation will help ease the pressure on government and sustain efficiency. Plus, surely stimulating entrepreneurialism, innovation and competition among SMEs won't hurt?

Occasionally, the make-up of an energy project will be too complex to 'unbundle' to give more opportunities to the local supply chain. In this case, an SME could 'shadow' the lead company or companies as part of a training program. This would strengthen the ICV of the local supply chain, reinforce SMEs' ability to bid on the next project, support the corporate and social responsibility (CSR) goals for the lead company and generally improve knowledge-sharing in Oman's energy ecosystem. In short, it's a win-win.

Inevitably, stumbling blocks will emerge. Some engineering, procurement and construction (EPC) contracts for SMEs act as a cover to open a floodgate for expatriate workers, which dilutes the true measure of ICV and Omanization, for example. But this challenge is hardly insurmountable. Eagle-eyed stakeholders across the ecosystem – industry, government, academia, financial institutions – with the common goal of supporting the local value chain can halt this activity.

GET ORGANIZED

How the local value chain is categorized matters; in terms of skill, size, capabilities,

geographies and so on. Proper data management (PDM) will ensure that the right local expertise can bid for the right projects. Steps in this direction are already being made, as illustrated by the Omani Authority for Partnership for Development, to manage the Partnership for Development program. The objective is economic diversification and support of strategic sectors through technology, leading to a knowledge-based economy ideally through joint ventures. Note the last two words: joint ventures. But this is just one step; many more are needed.

Aspiring for a knowledge-based economy as per the National Vision is no small feat. The more we know about the skills we have in Oman now, the more accurately we can nurture the skills needed for the 2020s and beyond. The sands are forever shifting. For example, a quarter of a century ago, chemical engineering was largely focused on raw materials and commodities. Today, it is primarily focused on specialty chemicals. Within this same time period, renewable energy has transformed from a bespoke utilization by a few into a mainstream method adopted by governments and multinationals.

More informational advertising campaigns that highlight the value of the local supply chain in this energy transition are essential to attract the brightest minds; today's best students are tomorrow's energy pioneers who will make the engines of growth roar. All hands are needed at the pumps. ■

Pride matters

Building national pride in the local value chain is the first step. A more holistic celebratory approach can unlock novel ideas across the socio-economic profile. For example, energy companies in Singapore champion the CEO as much as the individuals at the bottom of the hierarchy so that all the 'slices in the corporate pie' are equally valued. In a chicken-and-egg scenario, this encourages government, larger corporations and financial institutions to help the local value chain overcome the oft-discussed hurdles. Supportive policies that accelerate progress, sharing of research and development, technologies and the accessibility of funds are at the top of challenges that more established parts of the energy ecosystem can help the local value chain scale. This collaborative dynamic in Oman's oil and gas industry is constantly improving; these lessons must also migrate to the greener market. The two sides of the coin must be equally robust.

Black gold still shines

The energy transition does not mean discounting the value of fossil fuels; this side of the coin is just as necessary as renewables. We are aiming to sustainably increase crude output capacity by 13% to 680,000 b/d over the next three to four years as part of a \$20 billion spend.

Hit the Digital Accelerator **NOW**

BY GEORG HARWALIK

Head of Exploration, Development & Production MEA, OMV



I S THIS THE YEAR THE ENERGY industry finally embraces the 4th Industrial Revolution, the world's biggest economic shift since the 1800s? Yes – and it's about time.

We all already use technologies and digital tools, just as we all drive cars. But driving a car that is not widely used at 100km/hr in unknown territory is a different scenario to driving straight with good visibility at 30km/hr i.e. disruptive versus mainstream technologies.



\$2.5trn

Digitalization could unlock up to \$2.5 trillion of industry and societal value in the global oil and gas markets in the medium-term.

UNTAPPED GOLD DUST

What is one of the main justifications to push the boundaries? Economic gold dust. Digitalization could unlock up to \$2.5 trillion of industry and societal value in the global oil and gas markets in the medium-term. Benefits include reduced emissions and \$170 billion in cost savings for customers, according to the World Economic Forum (WEF). Giving such opportunities a cold shoulder will dull your competitive edge.

Eight billion devices are now connected to the internet, rising to 1 trillion by 2030, the WEF said. Smart Internet of Things (IoT) technologies will witness \$933.6 billion of investments by 2025, according to Grand View Research, while the International Data Corporation (IDC) expects corporate spending on new technologies to grow by 13% compound annual growth rate (CAGR) to \$2.4 trillion between 2016 and 2020. LR said predictive analytics are saving companies \$7 million on gas pipelines in the eastern US by forecasting failures, and \$325,000 per rig by using machine learning to predict drill-bit locations. Is this a savings plan and growth trajectory that you are happy to miss out on?

The industry's sometimes tentative digital adoption is understandable. But real-time transparency is coveted, both in-house and in partnerships. Proper data management (PDM) is the best route to such transparency, therefore mitigating risk, bolstering confidence and smoothing the way for much-needed investors. It is a simple equation: if we train our algorithms with lousy knowledge, they will make lousy decisions. Inevitably, black spots of inaccuracies will start to appear.

\$170bn

The benefits of embracing digitalization include reduced emissions and \$170 billion in cost savings for customers.

\$600bn

Digitalization must be embraced, but smartly. Cybercrime cost the world \$600 billion of global GDP in 2017 – larger than many countries' economies.

8bn

The number of devices now connected to the internet.



NAVIGATING SPEED BUMPS

Such black spots in an industry synonymous with high-risk environments and big-ticket checks are far from ideal. One way to counter this guesswork is by appointing 'digital sheriffs'; experts who can leverage their digital acumen to protect against the world's newest and largely invisible mafia, cyberhackers. Cybercrime cost the world almost \$600 billion, or 0.8% of global GDP in 2017, estimated McAfee.

But – and this is a meaningful but – such threats must not detract from the limitless opportunities offered by digitalization. It is better to accept and manage the risk and embrace the revolution, than shy away and risk financial ruin in the 2020s and beyond. Have no doubt that your competitors will be sharpening their digital edge to increase efficiency, cut costs and hit increasingly demanding environmental targets. Learning how to manage your concerns is critical to progressing swiftly and smartly.

Technology companies will increasingly become in-house entities in national oil companies (NOCs) and international oil companies (IOCs) in the Middle East this year to finesse digital portfolios. But this means mastering a tricky balancing act: protecting intellectual property (IP) while removing bricks in the walls blocking knowledge and data exchange.

Thriving in the 2020s means enhancing your digital education, managing your fear of change and promoting visibility. When it comes to outlining your strategy, ask yourself one question: which car would you rather be in? ■

Recapturing Hearts, Inspiring Minds

Many budding oil and gas specialists walked out of their classrooms following the price volatility of 2014 and the subsequent ramp up in lower-carbon growth, leaving a talent shortage. How do we recapture their interest in fossil fuels, a major and vital slice of the energy pie up to 2050 at least? And how do we facilitate their digital education? The pool of petroleum engineers today will increasingly evolve into one of data scientists over the coming decades. Does the oil and gas market know how that shift is going to pan out? Probably not. We must all work harder to find answers. A blasé attitude will drive failures. Digital transformation is a business transformation; one cannot thrive without the positive disruption of the other. Scalability of cultural change is one of the factors that needs addressing in this context. Communicating a new culture that embraces productive failure i.e. innovative research and development (R&D) in a small and medium-sized enterprise (SME) is one task. Spreading the message in a NOC of 100,000 people is another, let alone in the operating norms of a major and long-running partnership. In-house and cross-sector education will be a vital bridge for those stepping into the digital world. They need guidance to ensure they do not anchor the learning speed of others. Ignoring their naivety will lead to costly mistakes.

OIL & GAS TRADERS

How to Adapt to China's Slowing Growth?

- MIKE MULLER, Director, Oil Business Development, Vitol Group
- PROFESSOR JAMES MCCALLUM, Chairman, Xergy
- Moderated by: Sean Evers, Managing Partner, Gulf Intelligence



Sean Evers (SE): Let's talk about transparency and availability of relevant and timely data for trading in China. The country still seems to be operating in a relative black hole. How do businesses adapt?

Mike Muller: Much is made of the fact that Chinese real-time data is less transparent, but in fact this has given rise to a huge segment of work for people to be purveyors of the data and to be in the information trading business. It is also totally understandable that the transparency of data is done a little bit by stealth. There's no obligation on anybody to show their hand when they're active in the world market on a scale that drives price. In fact, some people have rules against those things. That said, the only tankage and vessel and oil movement data that you cannot track is pipelines and caverns because most tanks, floating roofs and movement in and out of vessels is information you can piece together. Clearly the card is held close to the chest

“ China still has a lot of growth to go. It's understandable why the five-year plans contain figures of 8% or 9% rather than 3.5% - a figure that OECD nations would be very proud of!”

by the big national oil companies (NOCs) and household names, like Sinopec, PetroChina and Sinochem in terms of their movements and their shipping data. But the day is far off when there will be a good degree of transparency on what's going on in this big, black box.

James McCallum: The growth numbers are still incredibly significant. There are two strands to China's growth story that are being played out: the international and the domestic dimension. The government is trying to manage those two things side by side. Many of us will be experiencing the international touch point i.e. China's One Belt, One Road initiative. Every time I go to China,

I experience a conversation which leaves me buoyant about what lies ahead. In fact, it exposes a level of ignorance in me as a western oil and gas person who's been in an industry for 40 years and who has been able to build successful service companies with almost a complete lack of knowledge of what's going on in China. I don't think anyone with a business today can move forward in the next two decades and get away with that same ignorance. Knowing what's going on in China will be an essential component of success with the embracement of partnerships being a minimum. If we look at technology, there are currently 14 Chinese companies developing a rotary stable motor,

In Focus: Economic Outlook

China is still very much a centrally planned economy with its notoriously famous five-year plans and with government bodies dictating the pace of growth with a joystick in hand; able to adjust the economy and cater for downturns. Many of the metrics in China are also a lot more volatile than you would see in Organization for Economic Co-operation and Development (OECD) countries. Where in the world would you have an Olympic Games where the government can instruct companies to shut down or move for good so that the

area can be cleaner? China has just overlaid the country with a domestic highway grid that's given rise to a mobility that's been unheard of before. You can get from A to B in two hours whereas it maybe took five hours for the same trip just ten days earlier. China is also in the process of putting in place the world's biggest high-speed rail system and deploying some of the best technology there. China has not achieved certain things, but it will undoubtedly do so soon. For example, it isn't in the top two countries for the number of aircraft carriers,

it does not have a significant aviation industry and it is still in the process of building 400,000 b/d refineries. All in all, the country still has a lot of growth to go and it's understandable why the five-year plans contain figures of 8% or 9% rather than the 3.5%, which most OECD nations would be very proud of. China will continue to grow at a much higher rate than 3%, for the many reasons outlined. If we look at the country's several provinces, many of these would be a top 20 country in terms of GDP. Some policies in China are being set at the

government level, some at the provincial level and some solely on infrastructure projects. As an example, China would love to take a slice of the Singapore market - the biggest port in the world in terms of bunkering. China is also leading the way in terms of ship building and containers. It is absolutely mind blowing how much money is being invested into ports. Companies need to do everything they can to have China as part of their portfolio, not just in terms of information intelligence, but also in terms of economic activity and relationships.

Source: Muller



one of which will soon come to market. There's no doubt in my mind that that technology will have a global market and a completely different price point from that which has been offered historically by the major western service companies. Do we ignore that, or do we choose to embrace it and see it as an essential part of the supply chain? On data transparency, we're not going to see any major change. I don't see China's President Xi Jinping tweeting anytime soon to the rest of the world on his

Next step? The amalgamation of many of the big Chinese oil and gas companies into a much larger player.”

plans and ideas and if I was him, I wouldn't be doing it either.

SE: When we consider the 100 million b/d world that we have just crossed into and if we assume just for now that we are heading for a 3% China growth rate over the next five to ten years, what is the outlook for the Middle East oil and gas industry? Is it prepared?

Mike Muller: China is the biggest customer for what some call west Asia and Middle Eastern resources. It has the fastest total barrel per day demand growth rates. Whenever it comes to commercial opportunities, such as participating in upstream or downstream and integrated chemical opportunities, China is at the top of everybody's list.



What's Next?

What is the outlook for the US-China trade dispute? What to make of the smoke signals out of the White House that they're willing to do a deal? The US and China trade debate is both economic and political. The US has a significant

divide between its political messaging and what's happening in the industrial sector, while those two things are joined in China. The Chinese government has a very firm view of how it intends to develop its economy and the core of

that plan is a diversity of energy supply. China doesn't want to be held to ransom by a dollar-based commodity denomination or a country which can leverage that in the form of sanctions in the Middle East whenever it chooses. Yes, China is taking less US oil. But let's not forget that a huge part of this slowdown is that, as the manufacturing hub of the planet, it is a consequence of the slowdown in the

rest of the world. Too much of the rhetoric of the slowdown is focused on China. We in the rest of the world are servicing that growth pattern - whether it's domestic in China or international in China. We should be thinking about how to position ourselves as an essential component of that equation as opposed to sitting on the sidelines waiting for somebody to phone and ask for more oil.

Source: McCallum

“ The world should be thinking about how to position itself as an essential component in China's demand equation. Don't sit on the sidelines waiting for somebody to phone and ask for more oil.”

From a trading perspective, China still hasn't assumed the place one could rightfully argue it should be in terms of price determination. It has not given rise to independent trading companies that have global reach. While it has many asset-based companies that have that sort of reach, there's still room for them to have a Vitol equivalent. There have been attempts, but there's still plenty of space for that to occur. China has offered the world a bridgehead into its own market by having an exchange, which has physical deliverable barrels for multiple Middle Eastern countries. This is enlightening given that many of those countries still impose tradability restrictions on those very same barrels. This is something that the world should embrace and try and connect to even though there are hurdles to overcome, such as the forex component.

SE: We're seeing NOCs in the Middle East move aggressively into what one might call integrated energy companies that encompass developed trading arms and refining downstream in the consumer countries. This seems to be driven by China's demand but also by the very competitive market that China has become for Middle Eastern producers. Is this move towards an integrated posture by the NOCs in the Middle East the right strategy?

James McCallum: It is. In the last decade, we've seen the Middle

East responding to an uncertainty around its positioning with the US. We have a very dynamic energy environment in that space. One other thing to remember about the Chinese market is that the Chinese oil and gas companies have almost followed a business strategy that looks like the international oil companies (IOCs) had about 20 and 30 years ago when they were fully-integrated companies across the whole value chain, both upstream and downstream. Many of the major service companies that are bringing technology to the floor today are subsets of the major oil and gas companies. They've got that leverage point into the market. We'll see an amalgamation of many of the big Chinese oil and gas companies into a much larger player.

Audience: What impact has the oil price volatility since 2014 had on Chinese growth and how is the US-China trade dispute affecting oil demand?

Mike Muller: We have a lot of analysis on the correlation between GDP in China and oil demand. The most discussed number in our industry is global year on year demand. It's been about 1 million b/d per year, taking us to the 100 million b/d we have today. In recent years China used to get about half of that. And China's lessened that total now because you've got other tiger economies in Asia, such as India, taking up their share. And, of course, a big rebound in western demand as well. Post financial crisis, China slowed down but it didn't stop growing whereas most other economies were negative. China has also been at the forefront of introducing renewables and efficiencies in its sector.

James McCallum: If I was starting my business and looking to grow it significantly, would I be looking to go to a mature marketplace where companies are already well defined and where industry functions in a manner which is consistent with how it's been done for the last 20 years, much like the US? Or would I be going to a marketplace where quite clearly there is huge change taking place and massive amounts of opportunity, new relationships and an openly declared willingness to expand globally? ■

**Edited transcript*

Smarts at the Ready

China is spawning a new generation of multilingual, well-educated and very capable people who are fully positioned to come and seek business on their terms. I visit the CNPC research center from a drilling standpoint on a regular basis. The number of petro-physicists, reservoir engineers and geo scientists that exist there in comparison to those that exist in any major oil and gas company is starkly different. We can't turn away from this new resource pool and intellectual horsepower. We need to be cognizant that this is the way it'll work. China doesn't need anybody's capital; they've got a cash surplus. The country has also been arguably leading the way on decarbonization, stepping away from high emitting CO2 refining projects and upstream ventures and replacing them with low emitting chemicals and renewables ventures.

Source: McCallum

Diversification? It's the Only Answer.

SARA AKBAR, *Chairperson & CEO, OilSERV, Kuwait*

Moderator: *Annamarie Hordern, Reporter, Bloomberg TV*



Annamarie Hordern (AH): How should Middle Eastern national oil companies (NOCs) respond to the competitive challenges of global oil production now standing at 100 million b/d and what do you see as the biggest risks for them going forward?

Sara Akbar: Diversification is key. To give you an example, Kuwait has been producing oil for almost 90 years. For at least 60 of them, we have continuously been talking about diversifying our economy, but we have not been successful. Today, Kuwait's budget has three to four main components. The biggest is government employee salaries – 380,000 people with packages costing \$35 billion – \$40 billion. In addition, we have about \$5.5 billion in subsidies for electricity, water and so on. All the components equate to the revenue generated from oil sales, so we are spending all of it on bureaucracy,

government and subsidies. This is what is driving us to diversify.

AH: Are Middle Eastern economies reforming? Even with these higher prices at \$60/bl-\$70/bl, we still see sovereign debt climbing in the MENA region. How should these countries really reform and diversify?

Sara Akbar: We haven't really touched on the big topics of reform yet because many of the nations in the Middle East still depend on oil income. The most successful story is probably the UAE, which has moved into diversification and the rest are just trying to follow. In Kuwait for example, we have a creative hub in the north of the country, which is mainly a trade center. That's a start. Kuwait's history is very interesting. Before they discovered oil reserves, the early settlers were very innovative, creating trade businesses and using routes from Iraq to India, etc. Today, we should continue to strive to deploy this creativity into economic activity and not just oil or gas. So, that's where we are driving the next development of Kuwait.

“ Climate change is not the biggest trouble facing the Middle East. We are facing bigger issues, such as the sanctions on Iran and the uncertainty of possible wars in the region.”



AH: Sitting in the Middle East, what do you think is more troublesome when it comes to the geopolitical factors we have seen over the past year? Is it US sanctions on Iran and Venezuela, trade talks between the US and China, two of the world's biggest consumers, or is it climate change? Is the Middle East itself behind the rest of the world when it comes to investing and developing technology?

Sara Akbar: Most of our companies do apply the latest technology. The biggest investments in oil and gas are in the Middle East because the cycles are different. When we talk about the perception of oil and gas, if you look internationally, it is really not that great and you don't see millennials joining the industry. Whereas in the Middle East, they are very keen because the sector is more engrained systematically and governmentally and is continuously developing and being invested into during the lows and highs of the price cycle.

AH: Wood McKenzie has said oil and gas development spending needs to increase by 20% to meet future demand growth and to ensure companies can sustain production for the next decade. Do you think this will materialize on a global level?

Sara Akbar: We are not investing enough into the industry. Last year, I was trying to raise a fund to do an acquisition in the Middle East, but it was not possible. Of course, the region is seen as a high-risk area, but the rewards are much higher than the risk. We need more private and market capital for investment in oil and gas in general. When was the last time you saw an initial public offering (IPO) in the sector? It's been a very long time and it doesn't happen because investors are not interested. It's a different story in the US where there is investment, much of it in shale and driving production. There is also investment in Brazil and Latin America, for example. But is this

all enough to cater for demand by 2025? I'm not sure.

AH: If we fast forward to 2030, energy demand is projected to almost double in the Asia Pacific region, according to the Asian Development Bank. What would be the path forward for producers in the Middle East to meet this?

Risks Aplenty

Climate change is not the biggest challenge. We are facing bigger issues in the Middle East, such as the sanctions on Iran and the uncertainty of possible wars in the region. Look at the recent escalation between India and Pakistan as well. Those possibilities are more of a concern to the people and the region than climate change or any

other topic. The biggest risk to the oil and gas industry specifically is the exponential development of renewable energy. If things continue to move at the pace they are today, we will need to carefully manage that at every level. In a country like Norway, for example, which is an oil and gas country, 35% of the cars are now electric. China, the biggest

growth market for Middle East oil, produces the largest amounts of electric cars. If we don't diversify ourselves into truly becoming energy companies, then we are facing a risk. Eight years ago, among the largest ten companies of the world, you had two or three oil and gas companies. Today, you have only one. That's the change that is already happening,

and as an industry we have tended to live in denial until we are hit with serious facts. That's when we wake up and try to embrace change. Our industry is not fast at capturing technology. Who in oil and gas today is investing in developing technology? Very few companies. If we do not embrace this and develop and evolve, then we are going to miss the boat.

Calling all Talent!

We need to correct and enhance the perception of the oil and gas industry. Through the boom and bust cycles of the past five decades, we have driven most of the talent

out to finance, private equity funds and more recently, to IT and data. Going forward, we must be talking about sustainable production and acknowledge that energy

from oil and gas resources is finite, whether that will be in 50, 60 or 100 years. Long-term plans should be driven by finding renewables and alternative sources that

are more sustainable than oil and gas. How the industry behaves during the cycles of the next 20 years will determine if the outcome is sustainable.

“ I was so happy when Saudi Aramco decided to do an IPO – it would have been an opportunity to drive much needed change in the region.”

Sara Akbar: Again, it is mainly investment. So far, it has been the big NOCs that have driven this. We don't see any private oil and gas companies in the Middle East; there is not even one in Saudi Arabia. I was so happy when Saudi Aramco decided to do an IPO – it would have been an opportunity to drive much needed change in the region. Reform needs to happen before the Middle East can be efficient enough to develop all the resources that are needed to meet demand. We need more private capital and more transparency about company performance. Today, you really don't know because none of that data is available.

AH: We are seeing change in terms of new partnerships, such as Saudi Aramco's tie-up with a lot of the Asian refineries. France's Total has also invested in the kingdom. Is that the way for NOCs to meet demand, by driving investment through partnerships around the world?

Sara Akbar: They must completely deregulate. Why would you still have a NOC after 80 years of production? Why don't you have

ten or 15 companies that are publicly-listed in the Saudi market? Isn't that the best way to go about developing the resource itself and to benefit the country? Why would you keep that monopoly on the resource? It has happened in Europe and worked, for example.

AH: Can the Middle East benefit from China's One Belt, One Road and this rapidly evolving dynamic between East and West?

Sara Akbar: China is the biggest nation that is importing products from our region and we are the biggest importers of products from China. Two decades ago, Chinese

products were largely faulty but today they are at the forefront of development in many aspects. Think about IT and technology. Think about Huawei and 5G – they are miles ahead of everybody else. China's products today can satisfy and fulfill a lot of the demands in the region. It is also the only country that has huge capital to spend, so this natural combination of good technology, good products and capital is a real advantage.

AH: In the next 20 years, where do you see Beijing in terms of its position and role on the global energy stage?

Sara Akbar: What they're trying to do now is to secure their energy needs from Africa and the Middle East. That is the cornerstone in their thinking. Everything else follows thereafter. ■
**Edited transcript*

Ladies, Step Forward

In Kuwait, more than 30% of those working in oil and gas are women. Having role models is a very important aspect of this and what makes me very satisfied are those moments when young women come to me and tell me they joined this industry because they have seen what I have been able to achieve. I sit on the board of Petrofac and we are constantly advocating for more women to be hired into management positions. We

must keep pushing and, through that, we can achieve something. Women must continue to fight this fight and we can get somewhere. One of the good things now is the regulation that is coming into the industry, such as a having to have 30% of women on each board. With the help of regulation, pressure and role models, we can create success.



THE ENERGY TRANSITION Getting it Right?

BY RAOUL RESTUCCI

Managing Director, Petroleum Development Oman

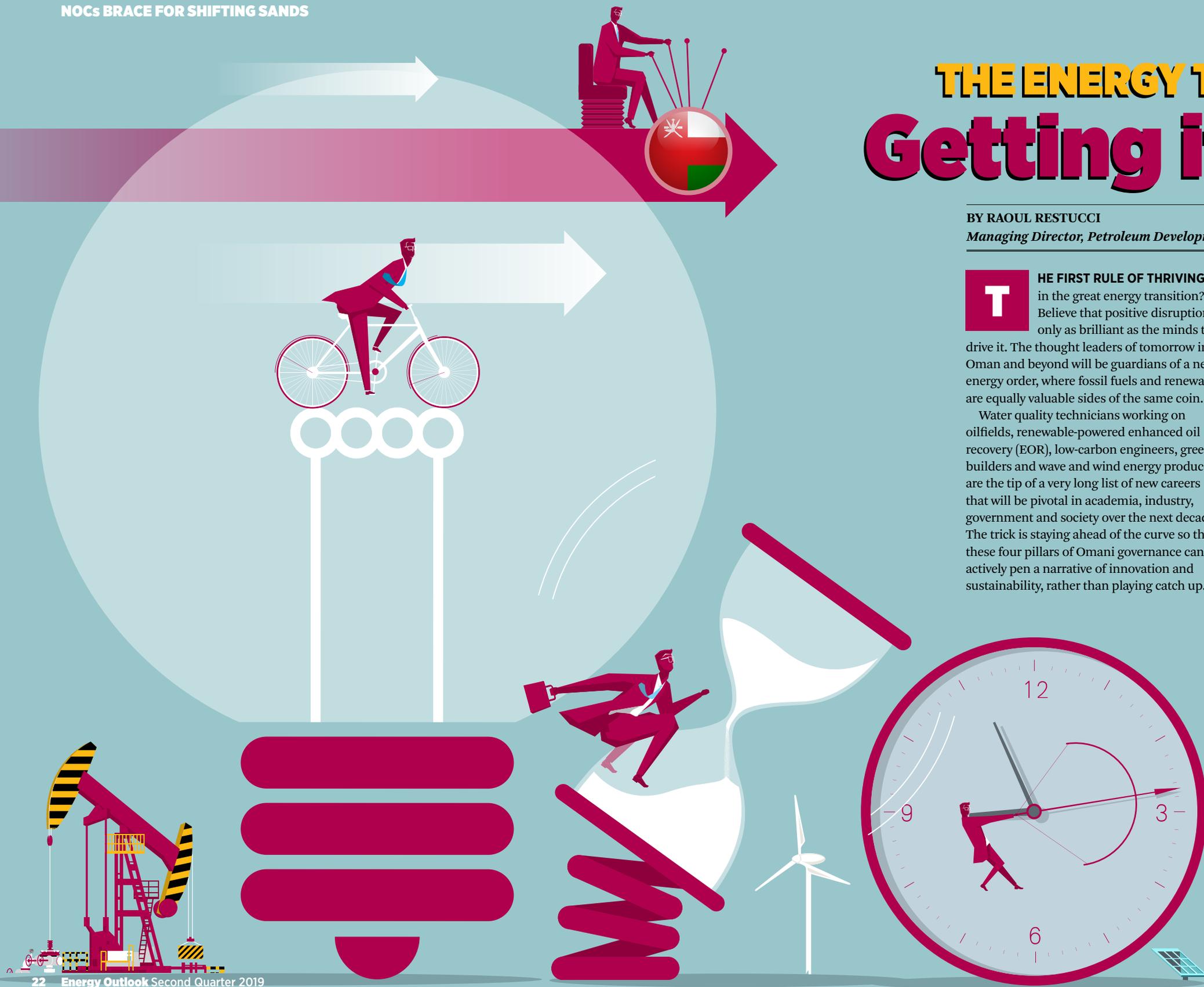
THE FIRST RULE OF THRIVING in the great energy transition? Believe that positive disruption is only as brilliant as the minds that drive it. The thought leaders of tomorrow in Oman and beyond will be guardians of a new energy order, where fossil fuels and renewables are equally valuable sides of the same coin.

Water quality technicians working on oilfields, renewable-powered enhanced oil recovery (EOR), low-carbon engineers, green builders and wave and wind energy producers are the tip of a very long list of new careers that will be pivotal in academia, industry, government and society over the next decade. The trick is staying ahead of the curve so that these four pillars of Omani governance can actively pen a narrative of innovation and sustainability, rather than playing catch up.

Luckily, potential abounds. The International Labour Organization (ILO) estimates that Oman's unemployment rate was 17% in 2017. Every undeveloped talent equates to millions of undiscovered Omani Rials of potential; be they critical thinkers, innovative communicators, budding minds in science, technology, engineering and mathematics (STEM) and many more areas.

Momentum for significant change has finally gained speed after nearly half a century of back-and-forth conversations worldwide between environmentalists, governments and financiers. People want – and need – change. Nearly all (82%) of respondents to the Green Energy Barometer Survey last year said it is important to create a world fully powered by renewable energy, regardless of age, education level or political ideology. And 73% of respondents to the survey, which encompassed 26,000 people across 13 countries, said building and producing more green energy will boost economic growth. In clean energy alone – just half of the new energy coin – investments reached \$333.5 billion in 2017, up 3% from a revised \$324.6 billion in 2016, according to Bloomberg New Energy Finance (BNEF).

Those doubting the environmental and economic motivators of the great energy transition can consider the third 'e' – the emotional driver. Sentiment is changing from a technical debate into an emotional one amid unnerving headlines reporting on pollution in Mumbai, raging wildfires in the US and the unexpected searing temperatures in the Middle East. There is an escalation in societies' emotional momentum, which could lead to a negative public reaction (panic, concern over resource allocation) if the cornerstones of national governance are not proactive.



WALK THE WALK

Oman has clear, innovative plans that now need to be delivered. We often all talk about new regulatory initiatives and policies, which have certainly paid dividends. But we must all do more to drive enforcement and make policies increasingly sophisticated. Building standards for schools have been enhanced, yet new schools are being built in accordance with old standards, for example. Poor alignment means innovative plans detailed on paper do not always translate into on-the-ground progress.

Subsidizing water and electricity next year for Oman could cost the government OR700 million, close to \$2 billion. Oman could funnel a relatively small part of that subsidy funding in order to have a significant benefit on its social services, such as talent enhancement and energy security. Reform comes with a temporary cost. Owing to the hike in electricity tariffs and VAT, the World Bank expects inflation to inch up to 3% in 2019 before moderating in 2020 as cost-push pressures from subsidy reform dissipate. Still, this is in the context of the sultanate's steady growth up to 2020. GDP will likely increase by 2.3%

82%

Nearly all respondents to the Green Energy Barometer Survey said it is important to create a world fully powered by renewable energy. Green change is real; momentum is building.

13

Nearly a third (73%) of respondents to a survey of 26,000 people across 13 countries believe building and producing more green energy will boost economic growth.

in 2018, 2.5% in 2019 and by 2.9% by 2020; reassuring amid today's oil prices.

How PDO and other energy stakeholders in Oman – industry, government and academia – position ourselves is pivotal to ensuring buy-in from the entire community. This extends to our responsibility to improve energy efficiency and renewables to supporting education and more sustainable consumption habits. Some stakeholders will be more focused on meeting Oman's obligations to the Paris Agreement, others will zoom in on the cost implications, others on the socio-economic impact and some will take more of a holistic view. Whatever your approach, united efforts are critical to make sure we make sustainable progress. After all, the red flags for the pressure points for us all in the Middle East are clear. BP Outlook expects the Middle East's energy consumption to rise by 55% by 2040, while Germany's Max Planck Institute for Chemistry and the Cyprus Institute in Nicosia warned that high temperatures could make some areas uninhabitable from mid-century onwards in the Middle East and North Africa (MENA). Plus, the United Nations expects Oman's population will rise by 26% to 5 million people, the UAE's by 39% to 13.1 million, Saudi Arabia's by 37% to 45 million by 2050.

“ Poor alignment means innovative plans detailed on paper do not always translate into on-the-ground progress.”



“ The economics currently work – but they must work harder, they must sweat.”

DEEPER POCKETS PAY

The economics currently work – but they must work harder, they must sweat. Policies that encourage more funding for novel research and development (R&D), re-financing fossil fuel and renewable energy projects, more independent power producers (IPP), unbundling the current centralized framework of power generation and improving the pool of talent are pertinent to accelerating Oman's progress. Muscat must also keep pace with other countries in order to evolve into a knowledge-based economy in what is a fast-moving world of increasingly ambitious low-carbon energy policies. For example, the European Union (EU) recently agreed a 32% renewable energy target for 2030 and Spain became the first EU country to create a ministry for ecological transition (merging the former ministries of environment and energy).

Meaningful change takes time. Take our project with GlassPoint as an example. Miraah, meaning ‘mirror’ in Arabic, will

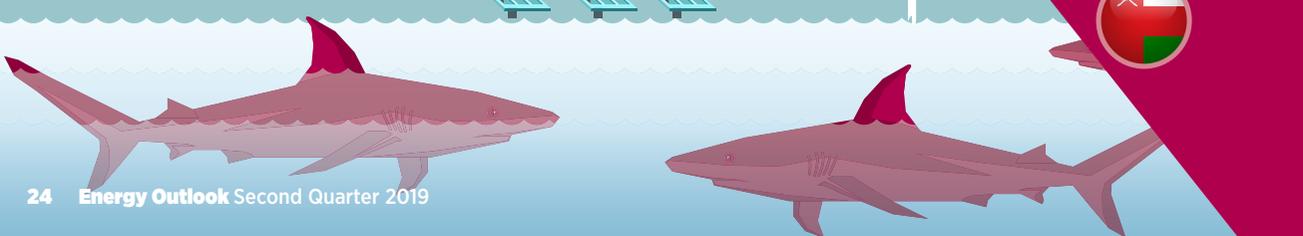
17%

Oman's unemployment rate means energy strategies to boost economic growth are increasingly valuable. Industry, government and academia must keep helping the sultanate unlock its vast pool of human resources.

55%

The rate at which BP Outlook expects the Middle East's energy consumption to climb by 2040.

use concentrated sunlight to generate 6,000 tons of solar steam each day. The steam will feed directly to PDO's existing thermal EOR operations, providing a substantial portion of the steam required at the Amal oilfield in southern Oman. Miraah will reduce carbon dioxide (CO₂) emissions by more than 300,000 tons each year, which is the equivalent of taking 63,000 cars off the road. This is a ground-breaking innovation, where phase one costs were more than the natural opportunity we could have had with gas, but where Phase two is in money i.e. the economics are more favourable, setting the enabling platform for phase three. Literally, patience pays. Ultimately though, the value of the project far exceeds the numbers. The project illustrates what can be achieved and how much further we can all push our expectations to guarantee an affordable, sustainable and efficient energy ecosystem. It is a marathon rather than a sprint. So pace yourselves, but don't lose your stride. ■

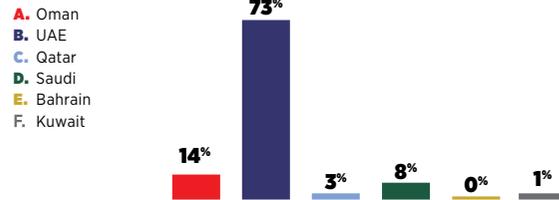


INDUSTRY SURVEY

OMAN ENERGY MASTER PLAN 2040

Powering Oman's Energy Transition for the Future?

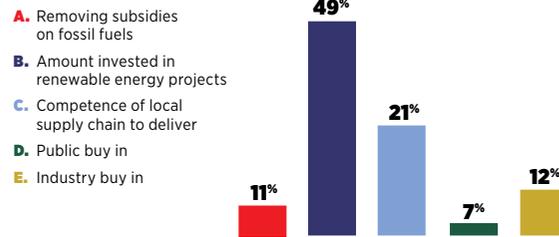
Saudi Arabia has promised to invest over \$100 billion to develop 41 gigawatts of solar electricity by 2032, while most other Gulf states have announced similar ambitious transition projects of their own. *When it comes to implementation, which GCC country is currently leading the energy transition?*



Oman's total domestic use of natural gas tripled in the ten years since 2008 to 1.5 billion standard cubic feet in 2017. *Will it be possible to meet this soaring demand growth without a centralized single authority overseeing all elements of the value chain i.e. a Ministry of Energy?*



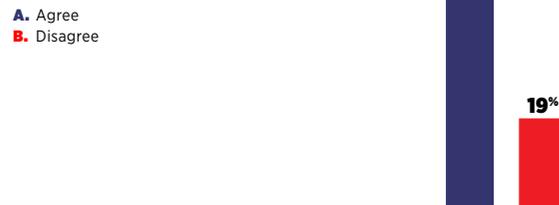
Contributions that each individual country should make to achieve the worldwide goal of the Paris Agreement on climate change are determined by all countries' nationally determined contributions (NDCs). *Which of the following is the most appropriate indicator to measure a Gulf country's progress in implementing an energy transition strategy?*



Oman and the GCC states need to go beyond their current focus on the power sector in embracing renewable energy and energy efficiency initiatives. *Consideration should also be given to the replication of these initiatives in water desalination, industrial and transportation sectors.*



The existence of a competent and integrated localized supply chain in Oman is critical for the country to be able to accelerate its energy transition!

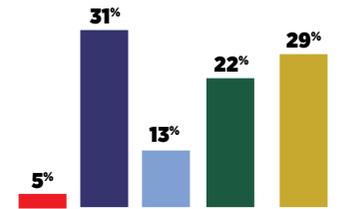


The diverse range of new energy sources within the energy transition will need complete infrastructure throughout the value chain - from production and capture to processing, storage and transportation. *Is Oman's legacy energy value chain an opportunity or a barrier to the energy transition?*



The energy transition must move towards secure, efficient and low-carbon energy systems that all encompass components related to production, conversion, delivery and end use of energy. *Which of the following should be the most important next step for Gulf countries?*

- A. Define the need for alternative energy sources
- B. Identify alternative (sustainable) energy options
- C. Define energy consumption per sector
- D. Define sectoral and intersectoral transition strategies
- E. All of the above



Peak power demand in Oman is expected to grow at around 9% per year, from 5,122 MW in 2014 to 9,530 MW in 2021. *The sultanate will be able to meet this demand through its Vision 2040 blueprint!*



The Miraah solar thermal facility in Oman is expected to deliver 6,000 tons of steam a day for EOR operations at the Amal oil field, while six new solar and wind powered projects in the sultanate aim to deliver around 2,650 MW of renewable power by 2024. *Oman will achieve its goal to generate 10% of its power from renewables by 2025.*



Policies that provide secure payments to refinance renewable energy investments and help liberalize the power sector would be significantly beneficial in attracting more investments in energy transition projects. *Does Oman have the right financial vehicles in place to encourage the investments required to achieve more sustainable forms of energy?*



The World Economic Forum's (WEF) Global Future Council on Energy declared earlier this year that the global energy transition is still not moving fast enough. *Therefore, the WEF said the ball is back in policymakers' court to accelerate the shift towards the clean energy solutions of the future.*



In June, the EU agreed a 32% renewable energy target for 2030 and Spain became the first EU state to create a Ministry for Ecological Transition from merging the former Ministries for Environment and for Energy. *Is it possible to get left behind in the great energy transition and miss out on its economic rewards, now estimated at \$1 trillion per year?*



There is a two-part solution to this energy transition challenge. First, reducing emissions stemming from energy supply by increasing the share of zero-carbon energy in the supply mix. And secondly, moderating growth in demand for energy by radically increasing energy productivity (the economic output generated from each unit of energy used). *Oman and Gulf countries should prioritize:*



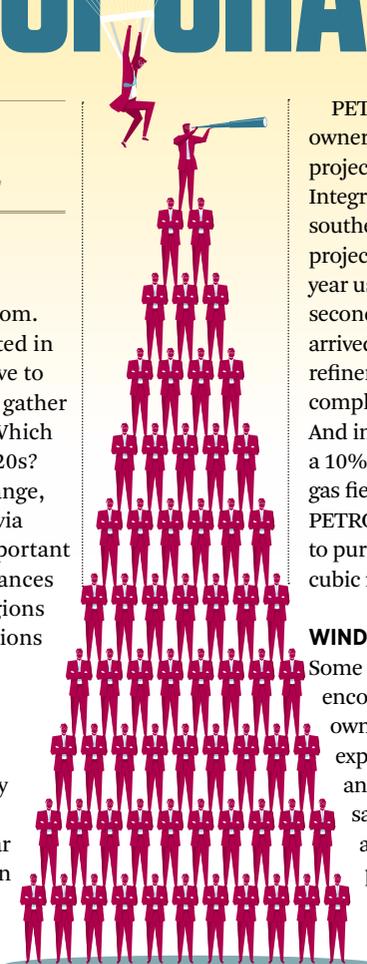
NOCs UNITE AMID WINDS OF CHANGE

BY ABD MALIK JAFFAR
Regional Director, PETRONAS
Subsidiaries Middle East, PETRONAS

IMAGINE NATIONAL OIL companies (NOCs) in a room. Some stay quiet and isolated in the corner and others move to the center, strategically networking to gather intelligence and forge relationships. Which type do you think will thrive in the 2020s?

Amid ever-intensifying winds of change, deepening roots at home and abroad via partnerships has never been more important to energy security. This extends to alliances between the Middle East and Asia; regions that have nurtured win-win collaborations for millennia.

NOC-NOC alliances will be the most dominant partnership structure in the energy industry in the 2020s, according to 48% of respondents to a GIQ Industry Survey in Singapore last year. Our own quest for new alliances continues to bear fruit; both those explored on the Arabian Peninsula and those on Malaysian soil alongside Middle Eastern partners.



PETRONAS and Saudi Aramco have equal ownership and participation in a \$16 billion project called the Refinery and Petrochemical Integrated Development (RAPID) on the southern tip of the Malaysian peninsula. The project will enter commercial operations this year using oil imports from Saudi Arabia. The second cargo of 2 million barrels of crude arrived in early January for the 300,000 b/d refinery, which is linked to a petrochemical complex capacity of 7.7 million tons a year. And in Oman, PETRONAS' subsidiary is buying a 10% stake in the sultanate's Al Khazzan gas field. The stake in the Block 61 that the PETRONAS unit PC Oman Ventures Ltd plans to purchase will produce around 1.5 billion cubic feet of gas per day by 2020.

WINDBREAKER: UNITY

Some energy stakeholders question whether encouraging successful NOCs into your own territory is a good idea. Will their expertise dampen your competitive edge and will knowledge-sharing jeopardize the sanctity of intellectual property (IP)? Not at all. Smart partners with outlooks that promote affordability, efficiency and sustainably are highly valued. There are enough political, financial and

Three Triggers... and Counting?

Three events have had a notable impact over the last six months: US President Trump's surprise regarding sanctions on Iran, a deceleration in economic activity worldwide and China's weakening economic performance. Global growth that was estimated at 3.7% last October for 2019 is now 3.3%, with 3.6% in 2020, according to the International Monetary Fund (IMF). The good news is that monetary tightening spurs appetite for consolidations; a trend that will likely translate into more partnerships this year.

environmental pressure points impacting the energy markets as it is; siloes hurt us all.

Geopolitics is the biggest wild card in 2019, with the trade war suspension between two economic and energy titans, China and the US being the most prominent. Brexit's unresolved situation, US President Trump's unpredictable actions, as well as Middle Eastern dynamics are amongst major contributing factors to stakeholders' anxiousness. These uncertainties breed a nervousness in energy finance, unsettling what had been increasingly positive financial outlooks (see above: *Three Triggers...and Counting*).

Amid this busyness, NOCs must still achieve their two fundamental goals: to be national energy champions that support energy security and to support local socio-economic growth. The stakes are too high for state-owned entities in Asia, the Middle East and beyond to fall behind. BP Outlook anticipates a 55% rise in the Middle East's energy consumption up to 2040, while the Asian Development Bank expects energy demand to almost double in the Asia and Pacific region by 2030. In Malaysia alone, the population will grow five-fold between 1950 and 2030 from 6.1 million to 36 million people, according to UN data.

NOCs in Asia and the Middle East are in good shape amid this tough outlook, especially after becoming leaner following the

0.4%

The global growth forecast for this year has been pulled back from 3.7% to 3.3%. Don't be fooled by the minor percentage change; it translates into mega finance in the real world.

48%

Alliances in the 2020s will predominantly be between NOCs, said nearly half of the respondents to a GIQ Industry Survey in Singapore.

\$2.5trn

The sum that digitalization could unlock in industry and societal value in the global oil and gas markets in the medium-term.

Green Ethos



Consider the mounting pressure on NOCs to meet lower-carbon targets. More than 30,000 people attended the UN's Conference of Parties (COP24) annual gathering on climate change in the southern city of Katowice in Poland last December. Momentum for green growth is accelerating and NOCs worldwide must keep abreast. PETRONAS recorded greenhouse gas (GHG) reductions of over 8 million tons of CO2 equivalent over a five-year period between 2013 and 2017

and we are working alongside the Malaysian Government to define a national fit-for-purpose energy model. All responsible NOCs must take the seriousness and effectiveness of their potential partner's 'green ethos' into account before signing on the dotted line. This can range from reducing CO2 emissions in enhanced oil recovery (EOR), waste water management, enhancing employees' understanding of sustainability and so on. Misalignment on these critical issues would risk expensive backtracking.

collapse of oil prices in 2014. Plans to unite these two national camps make sense. Plus, a broadening global footprint is increasingly coveted by both; 20% of PETRONAS' 50,000 employees are based abroad, for example.

Reaching out and accepting helping hands from fellow NOCs will help hedge against the political, financial and environmental hurdles in 2019. As the African proverb goes: 'if you want to go fast, go alone, and if you want to go far, go together.' NOCs in Asia and the Middle East have little control over the shifting sands but working together helps them to steer towards energy security. Calling all NOCs: step forward into the middle of the room to engage, explore and commit! ■

Digital Kudos

Think of digitalization as a well-timed moderator which has entered the room of NOCs – some engaging, some not – to kickstart a conversation that everyone can benefit from if they pay a little attention. Digitalization could unlock up to \$2.5 trillion of industry and societal value in the global oil and gas markets in the medium-term. Benefits include reduced emissions and \$170 billion in cost savings for customers, according to the World Economic Forum (WEF). Unsurprisingly then, a quarter of survey respondents said NOC-Silicon Valley partnerships will be the most popular in the 2020s, second to NOC-NOC alliances.





Breaking New Ground Pays LITERALLY

BY HATEM AL MOSA
CEO, Sharjah National Oil Corporation

EXPLORING UNCHARTERED territory is never easy. Creativity, risk and some fresh wrinkles are often the norm, especially amid unpredictable oil prices and talk of a global economic slowdown. But we are now living in a 100 million barrel a day world; clearly the effort pays off.

Accordingly, we were the first company worldwide to successfully conduct a competitive tender using a gross split basis structure for oil field concessions for what is our first major exploration in more than a

decade. The three concessions total an area of 1,885km² in the UAE emirate of Sharjah and were awarded to Italy's Eni as part of our first International Competitive Exploration Licensing Round.

Different to old concession agreements and production sharing agreements (PSAs), the gross split structure at its most basic level means the objectives of the international oil company (IOC) and the national oil company (NOC) are far more streamlined. Whatever it costs the IOC, it costs the NOC and whatever value one saves, the other saves.

1,885km²
The size of the three concessions in Sharjah that were awarded to Italy's Eni as part of SNOC's first International Competitive Exploration Licensing Round.

2030

SNOC's strategy has a central goal throughout; to support the UAE's 2030 National Agenda. This means ensuring affordable, reliable, sustainable and modern energy for all.

3.3%

Sharjah is a big energy player in the UAE; especially impressive considering it occupies just 3.3% of the country's land mass.

1980s

Sharjah supplied almost 100% of Dubai's demand in the 1980s and well into the 1990s.

10mn

Sharjah aims to attract 10 million tourists by 2021; consider that the UAE's total population is 9.4 million. Now consider how NOCs and IOCs must work together to ensure these rising energy demands are met.

The ethos of 'all for one and one for all' is especially valuable at a time when all energy stakeholders are balancing their books against the impact of climatic concerns, peak oil, frosty geopolitics and the burgeoning demand of soaring populations. BP Outlook expects the Middle East's energy consumption alone to rise by 55% by 2040. Against this backdrop of trouble spots, we are pushing forward to find solutions – ideas that can be used by other energy companies in the UAE and worldwide.

Energy companies must take their time; cross the 't's and dot the 'i's. None of us can step into bidding rounds – especially with new structures – without doing our homework thoroughly. Time is too short and energy demand too high to make mistakes. We must get it right the first time, especially when dealing with resources that relate to national energy security. SNOC's actions support the UAE's 2030 National Agenda to ensure access to affordable, reliable, sustainable and modern energy for all.

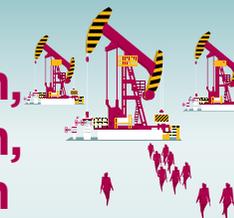
GAMECHANGER

Location is a huge slice of the success pie, but it needs help; enter technology. Opportunity to cut costs and boost production abounds with the 4th Industrial Revolution, the world's biggest economic paradigm shift since the 1800s. Digitalization could unlock up to \$2.5 trillion of industry and societal value in the global oil and gas markets in the medium-term. Benefits include reduced emissions and \$170 billion in cost savings for customers, according to the World Economic Forum (WEF). With question marks hanging over the oil price and the aforementioned pressure points, digital tools are our friends.

The ability to fully understand the complicated geology of the Northern Emirates has been vastly improved over the last two years, thanks to modern 3D seismic interpretation. The first well at our Moveyeid

“Time is too short and energy demand too high to make mistakes. We must get it right the first time.”

Location, Location, Location



A golden location certainly helps. Bordering all the UAE emirates, plus a border with Oman, Sharjah plays an integral role in connecting the country's energy industry. It is the only emirate that lies on both coasts; the Arabian Gulf in the west and the Gulf of Oman (Indian Ocean) to the east.

Despite occupying just 3.3% of the UAE's total land mass, Sharjah's prominence as one of the country's most important energy hubs is rapidly growing. SNOC's exploration plans will enable the emirate to recapture its role as the biggest gas producer in the northern Emirates. Sharjah supplied almost 100% of Dubai's

demand in the 1980s and 1990s, thanks largely to the major discovery of the Sajaa field in the 1980s.

We must also incorporate rising industrial demand for gas into our supply-demand equation. Such appetite, such as from the aluminum industry in Abu Dhabi and Dubai, can equate to that of another large city. Sharjah alone has 19 industrial areas that contribute to more than 48% of the UAE's gross industrial output, according to the UAE government. Plus, the Sharjah Tourism Vision 2021 bid to attract up to 10 million tourists by 2021 will add to demand; consider that the UAE's total population is 9.4 million.

field discovery in 1982 was very weak, as was the second well. Yet subsequent drilling following a 3D seismic interpretation of the same area ten years later produced ten times the production of the first well. The distance between the wells is less than two kilometers. That's near double the height of the world's tallest building in Dubai, the Burj Khalifa – a tiny hop in geological terms. Kahaif, our third reservoir, was revisited after a ten-year hiatus using 3D seismic interpretation and unlocked nearly 250 million standard cubic feet a day of production.

This all boils down into one simple message: try and try again – with the latest technology! As the world changes, energy companies must change with it. Success rewards the creative. ■

Oil-Centric Economies

BE AGILE

BY ALI AL SAFFAR

Middle East & North Africa Program Manager, International Energy Agency

THERE IS A MAJOR GAP in expectations; a 35 million b/d gap to be precise. Oil demand will hit 105 million b/d by 2040 unless significant efforts are made in key end-use sectors to limit consumption. A Paris Agreement-compliant scenario would see this being capped at around 70 million b/d. Smart, affordable and sustainable solutions can fix this huge discrepancy and ensure energy security – but the clock is ticking.

Renewables may be a nascent industry, one that is growing in importance, but it would be premature to write the obituary for the fossil fuel industry, or to assume that it is fading in significance. Fossil fuels are likely to make up the bulk of energy consumption up to the middle of this century. If they are used efficiently, the revenues from fossil fuels could be critical in stimulating other parts of the economy and financing the macroeconomic reforms that countries are starting to implement as per the energy transition.

In short: revenues from oil and gas still matter and without them, if investments in upstream assets don't continue, taking into account natural declines in producing fields, the world will be 45 million b/d short on oil supply by 2040 – a gap that cannot be filled by renewables.

The current development model that relies on recycling oil and gas revenues into jobs is not sustainable in the long-run. While labor productivity across the Middle East and North Africa (MENA) region varies, economies without large hydrocarbon resources like Tunisia, Egypt and Morocco have generally fared better than countries with major hydrocarbon resources, such as Iraq and Saudi Arabia. This is primarily because the public sector workforce has been a huge and inefficient drain on national coffers. Without a change to the employment patterns going forward, the public sector wage bill in Iraq is expected to climb to more than \$70 billion by 2030 – 40% of net oil income, for example.

Encouraging diversification and efficiencies is key. This encompasses investing more in extracting incremental value from refined products, freeing up gas resources and stimulate local economies and small and medium-sized enterprises (SMEs). The same applies to boosting investments in renewables for power generation. Today, we have 1GW of solar capacity across MENA and 90GW of power via oil generation. Clearly, there's opportunity to refine this process and use renewables to improve the efficient – and lower-carbon – use of fossil fuels.

On the demand side, the removal or retargeting of energy subsidies to encourage consumers to adopt energy efficient behaviors would limit wastage in fossil fuel generation while incentivizing more renewable projects. Strengthening the 'middle ground' between old and new i.e. fossil fuels and renewables, can be encouraged with more enhanced oil recovery (EOR) and carbon capture and storage (CCS) projects. Oman's Miraah project is an excellent example; solar power generates steam that supports EOR efforts, therefore minimizing water and gas usage. Projects that tick boxes in both 'camps' – fossil fuels and renewables – are highly valuable, especially in this transitional phase.

Every month, the outlook shifts. It's difficult to accurately measure the pace of technology advancements, but we do know that it is growing exponentially. Solar PV prices have halved in five years and are even beginning to compete in power projects against gas in certain parts of the world, such as Mexico. Let's not forget shale; nonexistent a decade ago and now a huge disruptor. The only thing anyone truly knows is that uncertainty is the only certainty. Oil producers adopt the capabilities of chameleons; agility to adapt quickly and without fuss to a rapidly changing environment. ■





Dodge the Swinging Pendulum

BY MICHELLE MEINEKE
Editor, Gulf Intelligence

IF CHINA AND THE US COUGH, other countries can catch the flu; so significant is the economic ripple effect of these two behemoths. Trade tariffs and diverging policies towards North Korea are among a growing list of issues that will likely drive discord this year. Energy stakeholders cannot afford to ignore the yo-yo of cooperation and frustration between these two titans.



90
Punches in the trade war between China and the US were suspended in a 90-day ceasefire. The March 1 deadline for raising tariffs was delayed. Could this be the beginning of the last few rounds in this boxing match?

China is the world's biggest buyer of oil, surpassing the US in annual gross crude oil imports in 2017 with 8.4 million b/d compared to the US' 7.9 million b/d. Last December, preliminary data from China's General Administration of Customs showed that China's crude oil imports rose 15.7% year-on-year to a record high of 10.48 million b/d in November. Plus, the Asian Development Bank expects energy demand to almost double in the Asia and Pacific region by 2030; music to Middle Eastern energy exporters' ears.

To the west, the boomerang nature of the US' energy industry suggests more surprises await

How to plot a safe path through this year's geopolitical wilderness? Shun isolationists and make more friends."

in the 2020s. The US has been a net energy importer since 1953, but the continued growth in petroleum and natural gas production means the country will be a net energy exporter by 2020, according to the US' Energy Information Administration (EIA). This is an astonishing turnaround, especially considering UN data shows that the country's population more than doubled from 158 million in 1950 to 324 million in 2017. Take the LNG market alone: having become a net natural gas exporter on an annual basis in 2017, the US could be the world's largest exporter by the mid-2020s.

WHEN IT COMES to economic growth, China takes the crown. Beijing will manage the world's largest GDP by 2050, while the US' position on the global scoreboard slips one spot to third place, detailed PwC. Yes, China is experiencing its lowest growth rate since 1990 and some justifiably anticipate another deceleration post-2020, towards 5% annual growth. But perspective is vital; President Trump would be delighted if the US steadily posted 5% annual growth. For now, the International Monetary Fund (IMF) expects China's GDP growth this year to be 6.3% versus the US' growth of 2.3%.

Simmering tensions between the two will undoubtedly persist. Beijing tends to act without much political fanfare, while President Trump is more vocal but often has less of a bite. Still, the consensus among Middle Eastern energy stakeholders is that codependence will prevail over strategic mistrust – for now. Making more friends is the Middle East's best hedging tool. With some strategic quid pro quo, a worst-case scenario can see the region grappling with a cold while isolationists battle the flu. ■



2050
China will be the top dog in terms of GDP size by 2050. India and the US come in second and third, respectively.



2022
Friends with deep pockets are vital. Meeting electricity demand alone in MENA by 2022 comes with a \$260 billion price tag.



\$8trn
Allies in China are especially coveted; investments under Beijing's One Belt, One Road initiative range from \$1 trillion to \$8 trillion.



2024
The US' population more than doubled from 158 million in 1950 to 324 million in 2017. Comparatively, China will be home to 1.44 billion people by 2024. Opportunity or hindrance?



Make Friends

How can Middle Eastern energy stakeholders plot a safe path through this year's geopolitical wilderness to remain competitive and have energy security? Ignore isolationists and make more friends. While it's important to be friends with the US, it's no longer enough. Alliances with China, India, wider Asia, Europe and the fastest-growing hubs in Africa are also critical.

For example, the Middle East must attract investments from China's One Belt, One Road (OBOR), as well as India's Think West policy. Popular estimates for Chinese investment under the OBOR range from \$1 trillion to \$8 trillion, according to the Center for Strategic and International Studies. Comparatively, the Marshall Plan after World War II provided the equivalent of \$800 billion in reconstruction funds to Europe. Meanwhile, India's efforts to integrate itself deeper into geopolitical dimensions,

economies and transnational networks are gaining traction. The country's \$2 trillion economy recently overtook France to become the world's sixth largest economy, according to Acuité Ratings and Research. PwC expects India's GDP growth to overtake the US by 2050, securing the number two spot behind China.

Clearly, nurturing friendships in such high places – the world's fastest growing economies and biggest energy consumers – can support the Middle East's coffers while minimizing the bruises caused by the sharp elbows of geopolitics. Saudi Arabia-based Apicorp said the Middle East and North Africa (MENA) must invest \$260 billion in its power sector alone to meet rising electricity demand in 2018-2022. This is just one example of where friends with deep pockets and a reliance on imports can help the Middle East scale its cliff of energy demand.

KICK OFF



Countdown to the US' Presidential Election

DR. FRANK LUNTZ

Political Consultant & Pollster

PROF. SOPHIA KALANTZAKOS

Global Distinguished Professor of Environmental Studies and Public Policy, NYU Abu Dhabi

Dr. Frank Luntz: The Democrats do not have their act together. I don't think the new speaker of the House, Nancy Pelosi, is a good communicator. She's an outstanding fundraiser and galvanizer of the left of her party, but not the new and alternative face that the Democrats need. They are not putting out the right messaging to defeat President Trump.

Prof. Sophia Kalantzakos: The shift in the House in the recent mid-terms is not so much about the Democrats winning, but about other voices entering the conversation and changing the landscape. For example, the advent of younger members.



100

In 2018, younger voters represented a total of 12% of the vote, despite it being the highest registered voter turnout overall in 100 years. The verdict? Young minds are clearly not engaged!

Dr. Frank Luntz: That is not filtering through to voter turnout unfortunately. In the 2008 election, people in the age bracket of 18-29 represented 18% of the vote. In 2012 at former President Obama's re-election, they represented 19%. In 2018, they represented a total of 12% of the vote, despite it being the highest registered voter turnout overall in a century. There was a lot of criticism of politics during that campaign by voters, but everyone came out - except for the younger generation. This is where I criticize the media who touted that 2018 was going to be 'the year of the young generation' and 'the year of the woman', for example. They were

projecting that women would be 55% of the electorate (they typically make up between 52-54%), but it was actually 51-52% That's lower than it has been in the past.

At the mid-terms last November, 39% of the people who voted wanted President Trump impeached. That is over 70% of Democrats, about 40% of Independents and no Republicans. The highest it ever was for President Clinton in the 1990s was 41% and that was right after he had acknowledged a wrongdoing and apologized. The view on President Trump being impeached is almost at that level right now, and that's before the Democrats start subpoenaing people. However, it has not been a hindrance for the White House or for the agencies yet, because President Trump completely dismisses it. That may change in March when they start to do congressional hearings and subpoenas, but there's no impact on the White House for now.

President Trump could lose the impeachment vote. The Democrats are hostile to him and I know very few who would be willing to stand up to their party and constituents and affirm him. But it will not be a vote on whether or not he committed high crimes and misdemeanors. It's going to be a case of 'do I affirm or reject President Trump?' It is so partisan in the House that in certain circumstances, he would lose that vote. But there is no way he will lose it in the Senate.

Prof. Sophia Kalantzakos: If the Senate does not vote for a conviction, even if he is impeached, there will be no real consequence. This is exactly what happened to President Clinton in 1998. Does it seem at all plausible



52%

US media said women would account for more of the electorate than in recent elections. Yet, it was 51%-52% - lower than previous years. An accurate narrative in the media is critical.



39%

More than a third (39%) of voters wanted President Trump impeached at the mid-terms last November.



1900s

President Trump is the most popular president since President Roosevelt in the early 1900s. The 32nd President of the US held office between 1933 and 1945.

that President Trump will be leaving the White House before the end of the term if not convicted? If not, it might be a wasteful tactic for the Democrats to keep focusing all their ammunition on that instead of producing new policy initiatives.

Dr. Frank Luntz: President Trump is the most popular president among his political party of any president since President Roosevelt in the early 1900s. He owns the Republican party. They have completely changed their position on immigration, on trade and on some other issues. The Republicans who don't like where the party is headed have left. This is not 1968 and President Johnson where you had Eugene McCarthy challenging him. This is not 1980 with Ted Kennedy who unsuccessfully challenged President Carter. However, the opposition to President Trump is also stronger today than it was two years ago. The 2020 campaign will be the ugliest we've ever had in modern times; perhaps the worst campaign in America since 1824.

Prof. Sophia Kalantzakos: Who looks likely to be the Democratic nominee? Joe Biden? Michael Bloomberg? Elizabeth Warren? Kamala Harris?

Dr. Frank Luntz: I believe there will be 18 Democrats running, which would be the most in the history of American politics. That will be quite a challenge when it comes to the debates as there won't be time for valuable dialogue. Whoever it is, they will need to be very well prepared to face Iowa and New Hampshire voters, who are extremely tough and intelligent constituencies. ■

*Edited transcript

A Rare Meeting of Ideals?

Americans want energy independence. It's the one place where the parties meet. There's a big move now for legislation to take us from E15 to E85; it would remove the US' dependence on Middle Eastern oil. Climate change is a zero issue among Republicans. When asked the question on mid-term election night, no Republicans had climate change as one of their top two issues. Among Democrats, the number one issue is income equality followed by climate change and then the civility of politics. We must find a way to avoid arguing over the definition of climate change and rather argue the solutions to it. We must go around the Republicans, because we are not going to change them, and instead focus on ways to make the air cleaner, our water safer and create great jobs for the economy. Climate change activists also need to adjust their attitude and stop fighting over absolute definitions. Be pragmatic and you win. Be highly logical and you lose.

Source: Dr. Luntz



TOP 5 Tweets

Q1 2019

@gulf_intel

Oil Price



- 1 #Oilprices to recover in 2019 and average at \$60/bl, @gulf_intel Markets Survey reports
- 2 Investors have rushed to short one of the top oil exchange-traded funds as crude prices hover near four-month highs <http://bit.ly/2TfGJdt> #OOTT #OPEC #oilprice
- 3 Global #oil demand will keep rising at least through 2040, and #SaudiArabia sees itself as the oil producer best equipped to continue meeting that demand thanks to its very low production costs #IPWeek #oilprices
- 4 @sean_ever Managing Partner, Gulf Intelligence, gives an #oilmarket outlook ahead of #IPWeek and the factors that are contributing to a buoyant #oilprice
- 5 I've stopped following #oilprices because it's not practical. I suggest we balance markets to reach an appropriate price for producers and consumers, says @HESuhail In his first interview of 2019 #gforum

Gas & LNG

- 1 Malaysia's state-owned #energy group @Petronas is doubling down on Canada in an attempt to build up #gas resources that will help meet a growing wave of Asian demand on.ft. com/2QjBKY1 #LNG #OOTT
- 2 Global #gas demand will grow at an average rate of 1.6%/yr, reaching just over 4,100 bcm in 2023, according to @IEA What role can we expect future #LNG demand to play towards diversifying energy mixes in the year ahead?
- 3 @AdnocGroup will use technology and partnerships to help extract big reserves of 'uneconomical gas' and put the #UAE on the road to eventually become a net #gas exporter, CEO says <http://bit.ly/2QIUXIK> #ACEnergyForum #OOTT
- 4 @uniper_energy and @TitanLNG have signed a MoU to develop a user-friendly technical interface and commercial products for small-scale #LNG players from the Wilhelmshaven FSRU
- 5 @Saudi_Aramco eyeing #gas and #LNG acquisitions as it also prepares for the potential purchase of the Kingdom's biggest chemical maker, CEO Amin Nasser revealed <http://bit.ly/2We8wOx> #OOTT

Renewable Energy

- 1 @APICORP estimates the region's power capacity requirements will increase at an annual rate of 6.4% through to 2022 so govt. are keen to increase the share of #renewables in the power mix. Will #oil majors' calls this year to see a price on carbon gain traction in 2019?
- 2 #China is the undisputed leader in the rise of #renewables, accounting for over 40% of the total global clean #energymix by 2022, according to the @IEA. What role will the #BRI play in promoting #CleanEnergy and low-carbon models in 2019? #gforum
- 3 71% audience disagree that #renewableenergy will replace all #fossilfuels by 2040! @NYUAbuDhabi @BCG @ACWAPower
- 4 @IRENA highlights that #renewableenergy & #energyefficiency can together provide more than 90% of necessary #energy-related CO2 emission reductions worldwide. Should it take a regional lead in implementation?
- 5 25% believe #renewables can replace #fossilfuels by 2040... only 5% changed minds after debate... Wow! @NYUAbuDhabi @BCG @ACWAPower #gforum

OPEC & non-OPEC

- 1 #Saudi Oil Minister @Khalid_AIFalih #OPEC won't change course until we see impact of #sanctions #OOTT
- 2 #OPEC listens to what the US has to say when it comes to #oilprices and production but always does the right thing, according to @HESuhail @MOEIUAE #gforum
- 3 #OPEC expects demand for the cartel's #crude in 2019 at almost 1m barrels a day less than last year as supply is expected to outweigh demand, something that has forced global producers to enact output curbs on.ft. com/2VXY7Ga #OOTT
- 4 #Brent Crude 2019 average seen in \$60s/bl, buoyed by strong #OPEC + compliance - #GIQ survey
- 5 #UAE has been a member of #OPEC for over 50 years, and that by working with like-minded partners, both within and outside of the OPEC organization, the goal of a more stable, less volatile #oilmarket can be pursued, says @HESuhail @MOEIUAE #gforum

Energy Transition

- 1 #energytransition involves changes within the core tangible elements of energy system: tech, infrastructure, market, production, consumption patterns & distribution chains, says @OxfordEnergy. So what does this spell for #energytransition initiatives across the world in 2019?
- 2 If the #energytransition is to happen, it needs companies dedicated to the development of #renewables and able to take technical advances in #solar or #wind to the global market #OOTT
- 3 While the speed, timing and details of the #transition are highly uncertain, the direction should be clear: toward a low-carbon future #energytransition
- 4 As each economic cycle passes into the dustbin of history, this question gets louder: should OPEC+ chase higher prices or fight for market share? <http://bit.ly/2RwOhlc> #OOTT #OPEC #EnergyTransition
- 5 How can investors leverage financial opportunities in the region's #energytransition in 2019? What part of the energy transition are investors most eager to support? #gforum

The Middle East LNG Institute

@MidEastLNG

Gas & LNG

- 1 #SouthKorea expected in Jan and Feb to import at least 18m/ bls of #crudeoil and 900,000 tons of #LNG from the US #OOTT #MELI
- 2 #China, currently the world's second-largest #LNG importer behind Japan, is set to overtake Japan as the top global LNG importer by 2022, according to @SPGlobalPlatts #MELI #OOTT
- 3 According to @Shell, global demand for #LNG will grow by 11% in 2019. Primarily, it will be consumers in #China and #India that will drive the expanding LNG industry.
- 4 The #MiddleEast was a bright spot for global #LNG demand in 2015. Now imports have plummeted so much that it could take a decade to recover.
- 5 US #LNG export capacity is on the brink of doubling in 2019, which will boost the super-cooled fuel's influence on the US #NaturalGas market, where volatility surged in 2018 after several years of slumber.

Energy Outlook



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75

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40+

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12%

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5

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30

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5

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