Gas is King

Proposals brainstormed at last year’s Energy Lab have singled out natural gas as a potent resource in sustaining economic growth amid the current downturn, provided its allocation is suitably prioritized and judiciously managed.

Future-proofing Oman’s hydrocarbon industry

The Under-Secretary of the Ministry of Oil & Gas advocates for collaboration, business resilience and operational excellence, among other imperatives, as a hedge against potential turmoil going into 2019.

More for less

The Authority for Electricity Regulation Oman (AER) has set into motion a momentous campaign in support of energy efficiency and conservation which, while contributing to significant savings, will also spawn the growth of Energy Services (ESCo) industry in the Sultanate.

Gender Diversity

A ‘Graduate Survey’ commissioned by Oman’s Ministry of Higher Education has found that women account for less than 10% of the total size of the workforce in the Oil & Gas industry – a gender imbalance that can be significantly remedied with a few policy tweaks.
الإستثمار من أجل مستقبل عمان
Investing for the future of Oman
Editor’s word

Market Highlights

Future-proofing Oman’s hydrocarbon industry
Key takeaways from HE Salim Al Aufi’s speeches to the Sultanate’s Oil & Gas fraternity delivered at various industry events held in Muscat in recent weeks

Gas is King
Proposals for accelerating Oman’s economic diversification, brainstormed at last year’s Energy Lab, have singled out natural gas as one of the most effective and viable resources

Facing the dual challenge of energy security and climate change: The Oman example

Championing best practice in energy efficiency
Oman and the wider GCC bloc are embarking on a clean energy transition pathway, which targets more sustainable, efficient and cost-effective methods for using energy

Charting a clean energy transition pathway

IEA’s Monthly Report (December 2018)

Petrochemicals set to be the largest driver of world oil demand
Petrochemicals are set to account for more than a third of the growth in world oil demand to 2030, and nearly half the growth to 2050. They also face a number of climate, air quality, and water pollution challenges, according to a key study by the International Energy Agency (IEA)

Middle East and Asia: Pioneering low-carbon partners

Opinion: One crude, two prices

Opinion: Mideast oil producers turn to new digital toolbox for cost savings

Promoting Gender Balance in Oil and Gas
International oil and gas companies are failing to fully leverage a potentially sizable and critical pool of talent, says a report jointly produced by the World Petroleum Council and Boston Consulting Group (BCG), which seeks to boost women’s representation in the industry

Are women shunning jobs in Oman’s Oil & Gas sector?

Quaterly Highlights

Shaping the Future of Oman’s Oil and Gas Industry
A distinguished roster of more than 50 experts shared their perspectives on an array of topics during Opal Oil & Gas Conference

Driving value creation through best practice sharing
The OPAL Best Practice 2018 Awards – merged for the first time with the OPAL Oil & Gas Forum – proved to be as popular as the standalone version of the event

Technology and the future of work

OPAL – OOCEP ink pact on Labour Market study

A paradigm shift in procurement

Creating value for local communities and the local economy
Alshawamikh continues to generate value for local communities in Al Dakhiliyah Governorate

OPAL’s growing family

Upcoming events

Impressum
Forward thinking
Our first edition of 2019 looks back on some of the key developments in the Oil & Gas sector over the past quarter, while also shedding light on trends likely to impact our industry – for better or for worse – during the course of this year.

There is profound wisdom in the many pronouncements of HE Salim Al Aufi, Under-Secretary of the Ministry of Oil and Gas, who in the lead article of this edition, proffers advice on what we must endeavor to achieve regardless of external factors that are not in our power to control. Global oil prices, for example, whether on an upward or downward trend, should never be a source of distraction for us in the industry. Rather, as the Under-Secretary points out, we should keep our focus on building efficient and sustainable businesses, developing human capital, and supporting in-country value development – in essence, future-proofing our industry against all manner of crises going forward.

OPAL is also being rapidly positioned to provide more effective and stronger leadership to the industry to proactively tackle all kinds of challenges. The objective is to anticipate challenges and work towards building capacity within the industry to offset their impacts when they do surface. This approach is being successfully deployed in, among other areas, employment generation and human capital development, which is perhaps the single biggest challenge confronting us today.

As outlined by our CEO, Musallam Al Mandhri, in these pages, OPAL is set to take on new responsibilities in preparation for a more robust mandate. The organization itself will be restructured into separate divisions, each tasked with a specific responsibility. This revamp will result in the establishment of a more streamlined and well-oiled organizational set-up designed to help us deliver on our ever-expanding mandate. Challenges notwithstanding, let’s opt to stay connected, engaged and positive all through 2019!

Abdullah Al Sinani
Executive Editor
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Market highlights

A brief snapshot of recent events and developments of significance to Oman’s Oil & Gas, Electricity and Renewables sectors:

Siemens wins $230m order for Duqm power project

International technology giant Siemens has received an order to supply the Duqm Integrated Power and Water project (DIPWP) with gas and steam turbines, long-term power generation services and digital solutions. The total order volume of the contract is in the range of 200 million euros (approx. US$230m), representing Siemens’ largest contract in the Sultanate of Oman. Spanning a period of 25 years, the service contract for the project marks also one of the company’s longest contracts in the oil and gas sector globally.

The DIPWP power and associated SWRO desalination facility is located in the Duqm Special Economic Zone, Duqm, Al Wusta Governorate, and is being developed by Duqm Power Company LLC, a joint venture, between Oman Oil Company and Gulf Energy of Thailand. It is set to meet the requirements of the new adjacent DRPIC Refinery and Petrochemical complex, complementing the country’s economic diversification plan and the focus on building up its industrial sector.

Following completion of the project in 2022, Duqm Integrated Power and Water plant (DIPWP) will have an installed generating capacity of 326 megawatts (MW) in combined-cycle duty and 36,000 cubic meters of desalinated water for Duqm refinery and petrochemical facilities per day.

The Siemens scope of supply includes a combined cycle power plant consisting of five SGT-800 industrial gas turbines, five SST-300 industrial steam turbines, and the corresponding control system. Additionally, the project scope includes Siemens’ cybersecurity solutions to improve asset visibility, reliability and security, while decreasing operation and maintenance costs.

[29 January 2019]

Dear readers,

Your feedback is very important to us. In this section of OPAL Magazine we are including a dedicated section where your thoughts on topics covered in this issue, as well as issues of relevance to the Oil & Gas business, will be featured. Please feel free to send in your suggestions on how we can improve the overall content.

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REQUIS REMOVES BARRIERS Users can upload verified certifications, drawings and photos to the platform, eliminating buyer worries over asset suitability.
His Majesty Sultan Qaboos bin Said issued the following Royal Decrees pertaining to hydrocarbon blocks in the Sultanate:

Royal Decree 12/2019 endorses Medco Arabia Ltd.’s conceding one third of its rights and obligations in the agreement signed on November 20, 2014 for Block No.56 to Biyaq Oilfield Services LLC. Article (1) ratifies Medco Arabia’s conceding one third of its rights and obligations in the petroleum agreement signed on November 20, 2014 for Block No.56 to Biyaq Oilfield Services so that the final share quotas of the contract signatories shall be as follows: 50% for Medco Arabia Ltd, 25% for Intag LLC and 25% for Biyaq Oilfield Services LLC.

Royal Decree 13/2019 endorses Oman Oil Exploration and Production LLC’s conceding 50% of its rights and obligations in the agreement signed on October 11, 2011 for Block No.56 to Byaq Oilfield Services LLC. Article (1) ratifies Oman Oil Exploration and Production LLC’s conceding one third of its rights and obligations in the petroleum agreement signed on November 20, 2014 for Block No.56 to Byaq Oilfield Services so that the final share quotas of the contract signatories shall be as follows: 50% for Medco Arabia Ltd, 25% for Intag LLC and 25% for Byaq Oilfield Services LLC.

Royal Decree 14/2019 endorses Allied Petroleum Exploration Inc.’s conceding its full rights and obligations in the petroleum agreement signed on August 10th, 2011 for Block No.36 to IPEX Oman (Block 36) Inc. Article (1) ratifies Allied Petroleum Exploration Inc.’s conceding its full rights and obligations in the petroleum agreement signed on August 10th, 2011 for Block No.36 to IPEX Oman (Block 36) Inc.

Oman Oil Marketing Company (OOMCO) and Ministry of Transport & Communications (MoTC) signed an agreement to build a temporary mobile service station in Al Rustaq on the Al Batinah Expressway. A first in Oman and the first on the 270 km new Expressway, the initial phase of the service station was set to commence operations in January 2019, providing services including fuel products and drive-through F&B facilities. OOMCO has also set plans with MoTC to establish four more mobile service stations across the highway by end of February 2019, two in North Al Batinah and two in South Al Batinah. These innovative mobile service stations provide an immediate solution to motorists on the new Expressway, allowing MoTC the time needed to map-out permanent station locations along the road. Offering fuel and non-fuel services, the 1,000 sqm stations will also include prayer rooms and F&B facilities both of which will open during the second phase of the project.

David Kalife, Chief Executive Officer of Oman Oil Marketing Company, said, “The new Al Batinah Expressway strategically connects eleven wilayats across two Governorates to Muscat. As such, it plays a key role in growing the tourism and commercial sectors. OOMCO is a partner in the development of the country and therefore has a responsibility to ensure such a logistical asset is well-serviced.” [27 January 2019]
OIL & GAS

A leading integrated Oil and Gas services provider with decades of experience in contributing to the energy security of the Sultanate. As an established Midstream contractor engaged in multidisciplinary EPC and commissioning activities, the Group now aims to leverage its expertise by providing Upstream exploration & drilling services and Downstream EPC services.

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OMAN LNG ACHIEVES 30M MAN-HOURS LTI-FREE MILESTONE

With safety as the centerpiece of its operations, Oman LNG has announced a remarkable milestone of 30 million man-hours worked without a Lost-Time Injury (LTI). The new record reflects nearly 3,200 or almost nine complete calendar years without injury to any of its personnel, signposting the company’s continuing vigorous attention to the safety and health of employees and contractors.

Oman LNG advocates a general mindset of “Chronic Unease” as a safety policy to combat complacency, defined simply as a state of remaining fastidious regarding health, safety and the environment (HSE) that drives continuous improvement.

"On behalf of the Board and Management, I would like to take this opportunity, to congratulate all staff and contractors on this unprecedented safety accomplishment. Our safety record has remained unbroken and for that we have to thank both a resilient company culture and the efforts of personnel across the entire supply chain. Behind this achievement stands a solid safety culture, exemplary safety leadership and management support, personal ownership of HSE and commitment for continuous improvement," said Harib al Kitani, Oman LNG’s Chief Executive Officer, addressing staff and contractors on the new record, while calling for continued observance of safe practices to reach new milestone heights.

[23 January 2019]

OMAN, UAE AND SAUDI EYE STRATEGIC GULF GAS NETWORK

The UAE, Saudi Arabia and Oman are researching an extension to the Gulf gas network, by integrating the gas lines between them with the Gulf electricity grid network, and then connecting it to Kuwait and Bahrain, a senior UAE government official said.

In statements to Emirates News Agency Wam, Suhail bin Mohammed Faraj Faris Al Mazrouei, UAE Minister of Energy and Industry added that extending the network will provide a constant and secure source of gas while noting that the gas network will be extended after the completion of their research and their agreement on the relevant details.

“We have plans for commercial connections with Egypt, Jordan and Iraq, which are expected to begin soon. We also plan to connect to Ethiopia, which will provide a link between the countries of Asia and Africa,” Al Mazrouei further added.

On the sidelines of his participation in the opening session of the Future Sustainability Summit, which is one of the events of Abu Dhabi Sustainability Week 2019, Khalid Al Falih, Minister of Energy, Industry and Mineral Resources of Saudi Arabia, stated that his country is currently researching the extension to the regional gas network, which includes the UAE and Oman.

[16 January 2019]

Occidental funds equipment for five Al Wafa nurseries

Occidental Oman signed an agreement with Dar Al Atta’a Association (DAA) to provide Montessori equipment and tools to five nurseries at Al Wafa Centers located in Adam, Bahla, and Ibi. The signing ceremony was held at Occidental Oman’s Headquarters building in Muscat. Stephen Kelly, President and General Manager at Occidental Oman, and the Eman Al Wahibi, Vice Chairperson of DAA, were signatories for their respective organizations.

This agreement follows phase one of Occidental Oman’s sponsorship to Dar Al Atta’a. In September 2017, Occidental Oman funded a child-care diploma program, the “Montessori Diploma Program”, where 25 Omani women from low-income & volunteering backgrounds at the Al Wafa Centers in Adam, Bahla and Ibi were sponsored to complete the Montessori diploma program. The program aimed to support the women in establishing careers within childcare in order to support themselves financially, and to advance educational development in the area.

Under phase two, as part of the newly signed agreement, Occidental Oman will fully equip 5 nurseries – 1 in Adam, 1 in Ibi, and 3 in Bahla – with Montessori tools and equipment. This will enable the phase one diploma holders, as teachers, to apply their Montessori theoretical study within their practical day-to-day work at the nurseries.

[6 January 2019]
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SHELL INTILAAQAH OMAN LAUNCHES ICLUB FOR BUDDING ENTREPRENEURS

Shell Intilaaqah’s ‘Aspire & Inspire’ programme has launched the “iClub”, an alumni-dedicated association where budding entrepreneurs can network and share challenges and success stories with each other to elevate their businesses. Short for ‘Intilaaqah Club’, the iClub was launched in a special ceremony in Crowne Plaza Muscat with participation of alumni, current Intilaaqah entrepreneurs and key partners. The ceremony was attended by Chris Breeze, Shell Oman Country Chairman who gave a speech to empower entrepreneurs to develop their network of relationships, learn from each other and share best practices. The event also saw the participation of potential investors, interested parties and more than 40 of Shell Intilaaqah alumni and Omani entrepreneurs.

The platform aims to provide alumni with a platform to explore best business management practices and strategies, while providing them with access to innovative and entrepreneurial resources as well as meet industry experts, experienced entrepreneurs and potential investors. The framework of the iClub was presented by Najwa Al Kindi, Director of Shell Intilaaqah Aspire & Inspire Programme Oman. In addition, the event saw the first elections of the club to ensure members are democratically including Club President, Khalid Al Haribi and Executive Committee Members Shaima Al Hajri, Ziana Al Shibani, Samia Al Mebsli, Khalfia Al Balushi, and Yousif Al Hashamni.

[19 Dec 2018]

OOMCO to open mega station

Sultan Qaboos University (SQU) in 2019. In line with its forward-thinking strategy to diversify revenue streams, the company signed a 20-year investment agreement with SQU to develop a fully integrated service hub on its campus, providing access to various offerings including shopping, food products and services. Catering to SQU students and staff in addition Al Khoudh 6th residents, the 10,000m2 project will comprise a fuel service station, coffee shops, a car care center, convenience store, shopping complex with global brands, a separate gym for men and women, a children’s play area, a pharmacy, a nursery, ATMs and a business center for students. Restaurant services will be provided by specialized Thai coffee house, Café Amazon. David Kalife, Chief Executive Officer at Oman Oil Marketing Company, said, “Earlier this year, we announced our road map for the future, reaffirming our commitment to go ‘beyond the pump’ in our mission to become one of the top 5 fuel marketers in the GCC by 2025. Achieving our goal is centered on building a brand that provides an unparalleled chain of service hubs.”

The SQU MEGA station will be completed in two phases. Phase one comprising the service station and car care center Optimo Swift is set to open in the second half of 2019. Phase two, which is set to open in 2020, will comprise all the other services in the complex. Oman Oil Marketing Company is also planning two more MEGA stations, one in Nizwa and is expected to open during the second half of 2019 while the second will be in Al Mabela and will open in 2020. [30 December 2018]

SHELL INTILAAQAH OMAN LAUNCHES ICLUB FOR BUDDING ENTREPRENEURS

Petroleum Development Oman (PDO) and Oman Liquefied Natural Gas Company (Oman LNG) are joining forces to co-fund the creation of job opportunities for Omanis in and outside the oil and gas industry. The Company signed a Memorandum of Understanding (MoU) with Oman LNG to govern the collaboration which will serve to boost existing in-country value initiatives at the two companies in the area of job creation and benefit a wider range of stakeholders nationwide.

Under the terms of the two-year agreement, PDO and Oman LNG will jointly fund training for employment programmes for jobseekers in a variety of economic sectors. A joint team representing the two parties will be formed to manage the selection of sectors and training programmes, and successful trainees will then be offered full-time jobs in their area of training.

A second MoU was signed with the Oman LNG Development Foundation whereby the Development Foundation will commit a designated amount to jointly fund a training-for-employment programme through PDO’s established National Objectives scheme. The agreements were signed by PDO Managing Director Raoul Restucci and Oman LNG Development Foundation, Chief Executive Officer Shaikh Khalid al Massan, at PDO’s Knowledge World venue in Muscat.

PDO’s National Objectives programme has already created more than 55,000 job, training, transfer, and redeployment opportunities for Omanis in both the oil and non-oil sectors, such as hospitality, real estate, fashion and aviation, since its launch in 2011, with more than 17,000 secured last year alone.

[6 January 2019]
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Future-proofing Oman’s hydrocarbon industry

Key takeaways from HE Salim Al Aufi’s speeches to the Sultanate’s Oil & Gas fraternity delivered at various industry events held in Muscat in recent weeks

Amid seesawing oil prices and ongoing uncertainty in global markets, HE Salim bin Nasser Al Aufi, Under-Secretary of the Ministry of Oil & Gas, has made the most of every opportunity afforded him in recent weeks to advocate for collaboration, business resilience and operational excellence, among other imperatives, as a hedge against potential turmoil going into 2019. Of late, he has also championed efforts to, among other things, unlock the benefits of the 4th Industrial Revolution, innovation and digitization, as well as accelerate the nation’s transition to a sustainable energy future – goals that are key to future-proofing Oman’s energy sector.

Indeed, a succession of high-profile conferences, workshops and seminars held in the Omani capital over the past three months have proved opportune for the Under-Secretary to articulate on longstanding strategic national objectives, such as job creation and talent development, as well as to broach more nascent topics, like Energy Transition, allocation of gas on a priority basis, and so on.

Partnership and collaboration

A key theme that has struck a chord with the local Oil & Gas fraternity is the Under-Secretary’s exhortation for continued collaboration in 2019, thereby keeping alive a partnership which has helped the industry collectively overcome the multifaceted challenges that have buffeted the sector since global oil price downturn of 2014.

In remarks during a panel discussion held at the conclusion of the OPAL Oil & Gas Forum 2018 in December, HE Al Aufi lavished praise on the industry for pulling together on key issues of national and strategic interest despite the intense competition.
and pain inflicted by the tough fiscal environment on individual players and stakeholders.

He paid tribute to local and international players alike, applauding them for surmounting their corporate self-interests when called upon to join hands and strengthen the overall well-being of the industry – a trait that sets Oman’s Oil & Gas sector from its GCC peers, he noted.

“What makes the business environment here different – at least from the rest of the GCC countries – is the fact we have a very strong contribution from internationals, as well as from local companies,” said HE Al Aufi. “The wealth of experience and exchange is making this industry completely different. While companies may compete with each other on manpower and so on, when it comes to addressing a specific challenge, it’s all hands on deck – whether it’s In-Country Value (ICV), safety, or any other standard, everybody is aligned. We don’t let our differences get in the way, and I think that’s an extremely strong selling point in this industry.”

The prevailing spirit of cooperation that has underpinned the Oil & Gas industry despite the economic challenges has earned it the respect of other economic sectors, said the Under-Secretary.

“We are seen by our peers here in Oman that we are a leading industry,” he remarked. “We were able to stand against a very low oil price, which was (impacting) us directly. That’s because we worked very well with the contracting community. Everybody understands and appreciates that in difficult times we work together, and when things are good we share whatever is good. But when it’s really difficult, we drop the competition and our differences and work together. At the Ministry, we are extremely privileged; it makes our life in the Ministry extremely easy. I would really like to see this spirit, this work environment, continue!”

The official warned that 2019 was unlikely to be “less challenging” than 2018. Among the challenges that the industry would have to continue to shoulder is the national objective of employment generation for Omani cadres. Much of the job creation, he said, would have to come from contractors and service providers, as well as the downstream industry, where
the more meaningful jobs are expected to originate.
In this regard, he called on individual companies to plan and prepare for their new Omani hires by scouting for the talent they want. For its part, the authorities would support this effort with funding support for training and upskilling.

**Industry 4.0**

Earlier, at the opening of the OPAL Oil & Gas Forum, the Under-Secretary urged the sector to be well-gear for the employment and technological upheavals that will be thrown up in the wake of the 4th Industrial Revolution. Industry 4.0, as it is also called, will be driven by disruptive technologies and innovations that are projected to transform the labour market in the global Oil & Gas industry, eliminating the need for certain types of skills while spawning the demand for entirely new skillsets.

HE Al Auﬁ noted in particular potential impacts for human capital developmental efforts in the Oil & Gas industry. “Human capital development is an area that continues to grow, and I think the 4th Industrial Revolution will only make it more exciting. There’s already a lot of discussion on what kind of jobs will be created over the next 5 – 10 years, and what jobs will completely disappear from the radar screen. So we need to understand what implications this will have on the people that are currently doing those jobs, and those who are in the pipeline expecting jobs only to discover that they no longer exist,” he said.

“The drive for efficiency in a $40/barrel world is not impacting the workforce, rather it’s driving the embrace of the 4th Industrial Revolution and digitalisation, and with them the question of what new
skills will be required, what skills are becoming redundant, how do we upskill and train the newcomers, and so on,” he further noted.

According to experts, the 4th Industrial Revolution – driven by technologies such as artificial intelligence, genome editing, Internet of Things (IoT), augmented reality, Machine Learning, robotics, 3-D printing, and so on – will rapidly change the way humans create, exchange, and distribute value.

The global oil and gas industry, in particular, will experience digital disruption at rates that will drastically alter common operating procedures in use today. Industry 4.0, as the new wave of disruption is also dubbed, will bring fully-automated drilling operations, autonomous inspection of pipelines and the rig-less plugging and abandonment of wells, and so on. Consequently, a large number of conventional skillsets will disappear, while new disciplines will emerge in their wake, it is pointed out.

The Under-Secretary welcomed the inclusion of key topics, notably digitalisation, in the programme agenda of the OPAL Oil & Gas Conference. Such themes, which include a focus on talent development, gender diversity, and so on, concern issues and challenges faced by the energy sector on a regular basis, he said.

“There are a lot of challenges ahead of us, particularly in the area of digitalisation, the 4th Industrial Revolution, and so on, which will happen whether we are part of it or not. It’s better to be part of it than be left out. I can see a lot of companies putting in place their strategies in this particular area; It’s good to understand what’s happening so they can align strategies to a large extent, and not feel left out.”

Business resilience

Some of the Under-Secretary’s most striking comments came at the start and conclusion of the 3-day-long OPAL Oil & Gas Forum, which took place at the Oman Convention and Exhibition Centre. Joining the CEOs of leading Oil & Gas operators in a panel discussion held on the concluding day of the event, HE Al Aufi exhorted the hydrocarbon industry to eschew any fixation with global oil prices, which have been the subject of wild swings in recent months, but to focus instead on developing a strong sector resilient to future oil price shocks.

Opening the discussion, HE Al Aufi said: “My message to everyone is: Don’t look at the prices. Continue to do all the good work you’ve done as though the prices are at $40 per barrel or $30 per barrel. And if it’s $70 per barrel, it’s good – (after all) let’s not lose these opportunities particularly in the short term; but let’s not get hung-up on prices, because they can flip to $60 one week and rise to $80 in the next week.”

He further added: “So to continue following prices on a daily or weekly basis could drive all of us crazy. The sanity in this business is to stay completely out of it, while making sure your business is resilient at low oil prices, and also making sure you don’t lose out when the good prices are coming. You need to put in place a solid business plan and programme at low oil prices.”

The Under-Secretary’s comments came on the eve of an announcement by the Opec / Non-Opec coalition of producing countries to cut their aggregate output by 1.2 million barrels per day for the first six months of 2019. The announcement helped lift international oil prices, which have suffered intense volatility over the
past three weeks, falling by as much as 30 per cent during this period. Omani crude, which had climbed to four-year highs of nearly $80 per barrel just before the latest slump, plummeted to around $58 per barrel at its lowest point.

Non-Opec Oman, which is on the joint Opec/non-Opec Monitoring Committee of leading producers, stands committed to any mutually agreed effort to stabilise the oil market, HE Al Aufi stressed. “Oman’s view is very clear, which is to continue to collaborate with Opec members to try and balance the market as much as possible. (The goal) is not so much a cut in production, as to really get to a point where the prices are fair to everyone – consumers as well as producers.”

The official welcomed the rally in international oil prices during 2018 which, despite the most recent downturn in December, is expected to end up averaging around $70 per barrel for the year. “(The higher oil price trend) was good because the Ministry of Finance needed a bit of a breather,” he said, referring in this regard to the Ministry’s recent announcement indicating that buoyant oil prices had helped reduce Oman’s fiscal deficit by 36 per cent. “There is still a deficit – they would need at least $76 per barrel to balance the books,” he noted.

Emphasizing the need for the Oil & Gas industry to remain efficient regardless of oil price trends, the Under-Secretary added: “We have achieved a great deal over the last 3 – 4 years in terms of eliminating waste, and pruning some of the unnecessary activities and redundancies in the way we execute the business, which have helped bring down the cost a bit and create efficiencies as well. We should hold on to these gains and never let them go even if oil prices get healthier than what they were.”

According to experts, the 4th Industrial Revolution – driven by technologies such as artificial intelligence, genome editing, internet of things (IoT), augmented reality, machine learning, robotics, 3-D printing, and so on – will rapidly change the way humans create, exchange, and distribute value.
Proposals for accelerating Oman’s economic diversification, brainstormed at last year’s Energy Lab, have singled out natural gas as one of the most effective and viable resources in sustaining economic growth amid the current downturn, provided its allocation is suitably prioritized and managed.

The calibre and cachet that they brought to the Energy Lab – one of many sectoral forums initiated by Oman’s authorities to help accelerate the nation’s economic diversification – couldn’t have been more striking.

High-level officials representing as many as 50 government ministries, public sector institutions, state-owned enterprises, private corporations, Oil & Gas operators, leading contractors, think-tanks and other stakeholders of Oman’s energy sector, took part in the five-week-long forum last March. Deliberations were supervised by the Ministry of Oil and Gas and supported by the Implementation Support & Follow-up Unit (ISFU), set up within the Diwan of Royal Court to drive the diversification process.
Amongst the most important conclusions drawn from the Energy Lab was the endorsement of natural gas’s preeminent role in accelerating economic diversification. Gas, the forum’s participants reaffirmed, has the potential to fuel industrial development, as well as generate the electricity necessary to support the manufacturing sector’s requirements.

At the same time, the forum recognized “bottlenecks” that impair the gas sector’s ability to deliver on these expectations. Chief among them are concerns about the inadequacy of the resource in the face of competing demands from the electricity generation, industry, LNG, and oilfield sectors.

“According to the current situation, the Sultanate is in dire need to secure gas supplies to meet the demand up to the year 2035,” the ISFU warned in a report of the Lab proceedings. “In particular, allocation of gas supplies for industrial use will witness an upsurge of 10.2% on average per annum in the coming five years.” Population growth and the emergence of new economic areas, it noted, are also expected to drive up energy demand.

The forum also shed light on a number of impediments plaguing the gas and electricity segments of the energy industry. It cited in particular the multiplicity of government agencies and their somewhat overlapping roles in policymaking relevant to gas and power issues. These entities in question include the Ministry of Finance, the Financial Affairs and Energy Resources Council, Ministry of Oil and Gas, and the erstwhile Public Authority for Electricity and Water (PAEW).

This shortcoming was partly addressed by a raft of Royal Decrees issued by His Majesty the Sultan last December. These promulgations mandated the amalgamation of the electricity sector with the Ministry of Oil and Gas effectively creating...

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### Energy Lab Participants

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an integrated energy sector. At the same time, the prerogatives of the Public Authority for Electricity and Water (PAEW) were limited to the water domain. In the upshot, general policy on the energy sector is now the principal prerogative of the Ministry of Oil and Gas.

The Energy Lab deliberated on three key objectives, encompassing both the electricity and gas related aspects of the energy industry in Oman:

1. **Energy Security**: To achieve a diversify mix of energy resources for electricity generation with an 11% share coming from nonconventional resources by 2023.
2. **Driving Industrial Growth**: To increase gas allocation to the industrial sector as well as to boost power supply to industrial demand by 2023.
3. **Governance**: To improve and streamline the governance structure, regulation and policies for both Gas and Electricity by 2019.

### Optimising gas utilisation

Due to its paramount importance, the Five-Year Plan in its ninth course (2016 – 2020) has selected to focus on energy sector to be among other promising sectors to achieve economic diversification. This is because the energy sector is highly regarded as one of the key pillars for the Omani economy and that its contribution to the GDP is a priority for the country. The Energy Lab was initiated to put the projects and future visions of the said sector into effect according to a timeline that spans from the year 2018 to 2023.

By the end of the Lab, a number of projects and initiatives were approved to secure electricity supplies. Such a goal will be met through diversifying resources available to generate electricity to reach 11% of renewable energy resources by the year 2023; expanding economic and industrial projects by increasing the percentage of gas shares allocated to industrial sector, and ensuring electricity supply meets demand of industrial projects by the year 2023.

The lab also focused on the need to streamline the governance structure, regulations and policies related to gas and electricity sectors by the year 2019. Estimates show that gas demand from the electricity sector will increase from 24% to 26% by 2023. That is why it is essential for the Sultanate to activate the programs for better utilization of gas resources and to increase its efficiency in order to cater for demand growth in power generation.

Moreover, discussions covered procedures for reducing electricity loss across the local interconnection systems leading to minimizing dependency on gas, and as a result, increasing savings and creating significant value by allocating the extra amounts of gas for other activities for optimal utilization.

Developing an integrated governance structure for the sector will ensure alignment of policymaking procedures, following-up on the implementation of the issued decisions and streamlining planning and development efforts of the electricity and gas sectors, while taking into account the interests of both sectors.

HE Dr. Mohammed Hamad Al Rumhy  
Minister of Oil and Gas
Key outcomes:

1. Natural Gas Management

The Energy Lab committed to supporting the expansion of industrial and economic projects by increasing gas allocations to this sector, as well as ensuring that electricity supply to industrial projects is commensurate with demand by the year 2023. Based on available data, the compound annual growth rate of gas demand in the industrial and manufacturing sector is expected to spike to about 10.2 per cent over the 2018 – 2023 timeframe, which is twice the rate recorded during the 2010–2017 period. To cater to this robust demand, the Energy Lab chalked out an ambitious Natural Gas Management blueprint centring on three key pillars.

Most notable is a commitment to securing long-term gas supplies for the industrial sector, through the implementation of the following initiatives: (i) reducing gas flaring (ii) replacing gas as fuel resource for electricity generation with renewables like solar and waste-to-energy, (iii) increasing current asset productivity, (iv) boosting gas production, and (v) increasing gas supply through investments in new gas exploration projects.

Furthermore, the Energy Lab pledged measures to improve the mechanism for submission of gas applications, notably through the adoption of more accurate methods for assessing gas demand across all consumer segments — power generation, industry, free zones, and so on. It also reviewed potential demand from new projects envisioned for implementation across Special Economic Zones, Free Zones and industrial parks located around the Sultanate.

The Lab also agreed to incorporate more precise factors in the gas allocation criteria. The move is designed to give greater weightage to applicants whose projects contribute to, among other things, job creation, achievement of Omanisation targets, utilization of indigenous raw materials, enhancing upstream and downstream opportunities, supporting In-Country Value (ICV) development, enhancing Oman's appeal to local and foreign investments, and driving GDP growth. In essence, projects that align with Oman’s strategic vision for the industrial and manufacturing sector will enjoy preferential treatment when gas allocations are considered. Importantly, a new Gas Allocation Committee was constituted to ap-
The Lab discussed the need to intensify efforts to reduce Oman’s dependency on gas as the dominant fuel resource for power generation. Around 97 per cent of all electricity produced in the Sultanate comes from gas-based projects presently. In this regard, it underlined the importance of developing an integrated interconnection strategic project to improve transmission to various regions across the Sultanate. Following are some of the initiatives discussed by the Lab to help meet energy demand growth as well as rationalize gas consumption:

1) North-South 400kV Interconnector
A strategic national project, the North-South 400kV Interconnector aims to integrate Oman’s four main grids: The Main Interconnected System, Dhofar Power System, Petroleum Development Oman (PDO) System and Rural Areas Electricity Company (Tanweer) System. The project will improve the overall efficiency of gas consumption used for power generation, reduce diesel consumption, and cut down the need to build new power plants. It will also support the utilization of renewable resources as it traverses parts of the Sultanate where solar and wind projects are expected to be construction. Additionally, the project will enhance investment opportunities in the Duqm SEZ, and offset the use of diesel fuel for power generation in the area.

Oman Electricity Transmission Company (OETC) has proposed three options for the interconnection project. Each of these options was thoroughly examined and evaluated through technical and economic feasibility studies. Project costs are estimated at RO 323 million with construction expected to start later in 2019. The Interconnector is slated to be operational by end 2023.

2) Utility-Scale Solar and Wind Projects
OPWP – part of Nama Group – is overseeing the procurement of a substantial portfolio of solar and wind-based utility-scale project. The first of these schemes, dubbed ‘Ibri Solar Independent Power Project’, a 500MW capacity solar PV project – is planned in Dhahirah Governorate and will be operational by 2021. Further schemes are planned in quick succession: ‘Solar 2022’ and ‘Solar 2023’, each of 500MW capacity, are due to be rolled out in 2022 and 2023 respectively.

A major wind power project, dubbed ‘Wind 2023’, offering 200 MW of capacity, is planned in one of the following locations: Sur, Jalan Bani Bu Ali, Duqm, Sudah, Shaleem and Hallaniyat Islands, and Al Jazer. The project is expected to become operational by 2023.

3) Waste-To-Energy Projects
OPWP had issued a tender for a technical and economic feasibility study for use of municipal waste in power generation. The initiative is focused on the implementation of two main projects: one is related to the recycling of municipal waste with the capacity of 90 MW and located in Barka, and the other is based on the utilization of bio-waste in more than one location in the Sultanate.
Facing the dual challenge of energy security and climate change: The Oman example

To meet the dual challenge of energy security and climate change, the Gulf Arab states need a holistic understanding of energy systems when planning an advantageous energy mix

Aisha Al Sarihi

Energy security and climate change present a dual challenge for the Gulf Arab states. With domestic demand for energy rising overall at a rate of some 5 percent per annum, and climate change presenting new energy- and economy-related uncertainties, the need for alternative, efficient, low-carbon energy sources becomes more pressing. Responding to this dual challenge, all of the Gulf Arab states have adopted targets and initiatives toward deploying renewable energy and energy efficiency to both enhance energy security as well as eliminate their carbon footprint. However, upon examination, these initiatives are seen to be by and large focused on the electricity sector with limited consideration of the water desalination, industrial, and transportation sectors. In addition, there is a lack of clear strategy of how such targets can be achieved. In order to make the transition toward secure, efficient, and low-carbon energy systems (which encompass all the components related to production, conversion, delivery, and end use of energy by sectors such as industry, transportation, construction, and agriculture) a fresh outlook on how the dual energy challenge can be tackled is needed, along with a holistic understanding of energy systems themselves. This can be achieved through four guiding steps: first, define the need for alternative energy sources; second, identify alternative (sustainable) energy options; third, define energy consumption per sector; and, fourth, define sectoral and intersectoral transition strategies. Oman’s case is an illustrative example.

Define the Need for Alternative Energy Sources

Oman faces unprecedented challenges that motivate the search for alternative energy resources. These include limited oil and gas reserves, increasing domestic energy demands, and high per capita carbon emissions. In comparison to its neighbors, Oman has the smallest fossil fuel reserves. At just 0.7 trillion cubic meters, Oman has the smallest gas reserves in
the Gulf region, after Bahrain, at 0.2 trillion cubic meters. Compared to Saudi Arabia with 266.2 billion barrels, Oman has the smallest oil reserves in the region, standing at 5.4 billion barrels at the end of 2017. Furthermore, Oman’s crude oil reserve-to-production ratio, which is a measure used by companies and governments to predict the lifetime of remaining amounts of fossil fuel resources, is 14 years and for natural gas it is 27 years, compared to 75 years and 82 years for crude oil and natural gas in Saudi Arabia, respectively. In fact, since 2008 Oman has been importing natural gas from Qatar via the Dolphin pipeline system.

Oman’s semiarid environment, reliance on air conditioning, rising standard of living, growth in energy-intensive industrialization, population growth, introduction of new households, and infrastructure investments are factors behind the dramatic increase in domestic demand for energy. For instance, total domestic use of natural gas tripled from 381,519 million standard cubic feet in 2008 to 1,447,422.2 million standard cubic feet in 2017. Additionally, the domestic increase in energy demand, which is 100 percent reliant on oil and gas, has contributed to incremental increases in total greenhouse gas emissions in Oman, which have grown by over 452 percent between 1970 and 2012 and are projected to grow by an average 5 percent per year. The energy sector accounted for 90 percent of greenhouse gas emissions in 2014, followed by emissions sourced from bunker fuels, industrial activities, agriculture, and waste. These three challenges need to be taken into consideration when planning Oman’s future energy mix.

**Identify Alternative (Sustainable) Energy Options**

In practice, different energy sources are needed to meet the increasing demand, preferably with limited or no carbon emissions. At present, virtually 100 percent of Oman’s energy needs are currently met by fossil fuel resources, namely oil and gas; renewable energy accounts for less than 1 percent of total energy generation. A study by Oman’s Authority for Electricity Regulation indicates the existence of significant renewable energy sources in Oman, especially wind and solar. In particular, the study notes that if all available solar and wind resources were harnessed, a total of 3,970 megawatts of electricity capacity could be sourced from renewables. This accounts to around 68 percent of total electricity installed capacity in Oman in 2018. This means, according to the study, Oman cannot completely rely on available solar and wind energy sources to meet its energy needs. Therefore, development of alternative energy sources, along with renewables, is needed.

Energy efficiency, which is not a physical source of energy but is as important as alternative energy supplies, has received insufficient attention until recently. The launch of an energy efficiency awareness campaign is promising, but application of energy efficiency measures such as energy consumption reduction targets is recommended, especially given that the per capita electricity consumption in the Gulf is the highest in the world. Nuclear, waste-to-energy, wave energy, off-shore wind energy, and the role of carbon capture and storage are other potential alternative energy sources, but their feasibility has yet to be investigated in Oman.

**Define Energy Consumption per Sector**

To plan a future energy mix, defining energy consumption per sector is as important as defining greenhouse gas emissions per sector. In Oman, industrial projects (such...
as petrochemical industries, cement, and refineries) were the major consumers of natural gas in 2016, followed by oil fields, power generation, and industrial areas (i.e. free economic zones) accounting for 55 percent, 22 percent, 19 percent, and 2 percent of total gas consumption, respectively.

To date, efforts to integrate alternative energy sources such as renewables are focused on the power and oil field sectors. In terms of the power sector, several renewable energy initiatives have already been adopted, including a 10 percent renewable electricity supply target and the Sahim rooftop solar photovoltaic installation initiative. In terms of oil fields, Petroleum Development Oman, the largest producer of oil and gas in the country, developed a 7 megawatt solar project to produce steam for enhanced oil recovery processes to replace the use of gas, and most recently Miraah, a 1 gigawatt solar enhanced oil recovery project.

The industrial sector, which is a major consumer of energy as well as a major source of carbon emissions, has received insufficient attention in terms of integrating alternative energy sources. Similarly, energy needs of the transportation sector are 100 percent met by petroleum products: Vehicles consume 93 percent of oil used domestically and the other 7 percent is used as jet fuel. Electric vehicles are a promising option and regulations need to be established for their utilization. Indeed, the first electric-car charging station at Sultan Qaboos University launched on January 21, as part of the Middle East edition of the Global Electric Vehicle Road Trip; this is promising and could stimulate future action toward using electric cars in Oman.

Having defined energy consumption per sector as well as greenhouse gas emissions per sector, the next challenge is to establish a sectoral energy transition strategy.

**Define a Sectoral Energy Transition Strategy**

To do so, it is important to realize that changes in energy systems involve not only changes in technologies but also a variety of elements including regulations, business models, markets, user practices, infrastructure, and networks.

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### Proposed Sectoral Energy Transition Strategy in Oman

<table>
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<tr>
<th>Sector</th>
<th>Current Energy Sources</th>
<th>Alternative Energy Sources/Technologies</th>
<th>Available Regulations</th>
<th>Areas of Research Needed</th>
<th>Targeted Consumers by Awareness Programs</th>
<th>Proposed Network of Actors</th>
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<tbody>
<tr>
<td>Power Sector</td>
<td>Natural Gas; diesel; less than 1% renewables</td>
<td>Solar and wind energy; energy efficiency; waste-to-energy; wave; and nuclear</td>
<td>Rural area renewable energy policy and Sahim</td>
<td>Public acceptability for renewables and willingness to pay; waste-to-energy feasibility study</td>
<td>Households; Industries; commercial; government; and agricultural sectors</td>
<td>Authorities for electricity regulation; Ministry of Oil and Gas; Oman Power and Water Procurement Company; Ministry of Finance; Oman Power and Water Procurement Company; researchers</td>
</tr>
<tr>
<td>Water Deslination</td>
<td>Natural gas</td>
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<td>N/A</td>
<td>Research and pilot projects to test the feasibility of renewable energy and energy efficiency</td>
<td>Households; industries; commercial; government; and agricultural sectors</td>
<td>Authorities for electricity regulation; Ministry of Oil and Gas; Ministry of Finance; Oman Power and Water Procurement Company; researchers</td>
</tr>
<tr>
<td>Transportation</td>
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<td>Ministry of Transport and Telecommunication; Ministry of Finance; Supreme Council of Planning; researchers; Ministry of Environment and Climate Affairs</td>
</tr>
<tr>
<td>Industrial Processes</td>
<td>Natural gas</td>
<td>Renewable energy; energy efficiency; biogas; carbon capture and storage</td>
<td>Voluntary</td>
<td>Feasibility of using renewables such as solar, wind, and biofuels for large-scale power generation</td>
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<td>Industrial clusters such as Sohar Industrial Port; Duqm Industrial Zone; Petroleum Development Oman; Ministry of Environment and Climate Affairs</td>
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<tr>
<td>Oil Fields</td>
<td>Natural gas and 1.7 GW solar enhanced oil recovery project</td>
<td>Renewable energy; carbon capture and storage</td>
<td>Voluntary</td>
<td>Feasibility of carbon capture and storage; energy efficiency</td>
<td>Staff; partners; shareholders</td>
<td>Petroleum Development Oman; Authorities for electricity regulation; Ministry of Oil and Gas; Ministry of Environment and Climate Affairs</td>
</tr>
</tbody>
</table>
of actors or culture. Therefore, the establishment of an energy transition committee, consisting of public-private networks, that oversees the transformation of each energy sector is recommended. The roles of the committee include: establish a sectoral transition vision, define the alternative energy sources and technologies, identify the barriers to making the transition, and, most important, identify the policy incentives to overcome identified barriers. Given that energy system transformation is not an easy task and is a lengthy process, especially in economic systems with vested interest in fossil fuels like Oman, it is important to allow room for experimentation and learning-by-doing. Also, since the transition toward alternative energy sources is nascent in Oman, programs that support research and innovation as well as raising awareness are essential components of a sound energy transition strategy.

The recently established Energy Lab, led by the National Programme for Enhancing Economic Diversification, Tanfeedh, is indeed promising, especially as it consists of not only new technology frontrunners but also incumbent energy regime members such as the Ministry of Oil and Gas. However, it is important that the search for alternative energy sources does not serve the vested interests of incumbent energy regime members. Furthermore, it is important to consider the interactions between sectors for which intersectoral energy policies can be adopted.

These four guiding steps, although not exhaustive, are crucial to ensure tackling the dual challenge of energy security and climate change in a holistic manner without looking at a single energy sector in isolation. This is important in order to avoid future unintended environmental, economic, or political consequences. Examples of these consequences include increasing greenhouse gas emissions associated with building more water desalination plants to meet the increasing water demands; extra costs required to rebuild an infrastructure that accommodates new technologies such as electric vehicles; or the conflict of policies between sectors. Finally, defining an energy transition timeline and maintaining momentum in the form of regular consultations among policymakers are key.
Championing best practice in energy efficiency

Oman and the wider GCC bloc are embarking on a clean energy transition pathway, which targets more sustainable, efficient and cost-effective methods for using energy.
Energy efficiency policies, technologies and practices for the industrial and building sectors in Oman were deliberated during an executive workshop held in Muscat with the support of Petroleum Development Oman (PDO) and the EU-GCC Clean Energy Technology Network.

HE Salim bin Nasser al Aufi, Under-Secretary of the Ministry of Oil and Gas, presided over the start of the two-day event, which attracted around 180 experts representing policy makers, authorities, industry, building energy-users, engineers and technology providers as well as academicians and researchers.

Oman and the wider GCC bloc are embarking on a clean energy transition pathway, which targets more sustainable, efficient and cost-effective methods for using energy. Energy efficiency measures and technologies, including smart technologies and smart cities, can play a major role in reducing energy intensity and thus emissions.

The workshop featured high level addresses by Dr Hilal M Al Mukhaini, Director, Energy Department, GCC Secretariat General and Dr Mustapha Taoumi, Energy Technology Expert, EU GCC Clean Energy Technology Network. Also sharing their thoughts on energy efficiency were HE Salim al Aufi, Under-Secretary of the Ministry of Oil & Gas; Mr. Qais Al Zakwani, Executive Director & Member – Authority for Electricity Regulation Oman (AER); Ms Bushra al Maskari, Senior Policy and Strategy Specialist – AER; Mr. Costas G Theoifylaktos, Senior Energy Expert – EU GCC CETN; Dr Abdullah Al Abri, Technical Lead – PDO, and Mr Ibrahim al Waili, Business Planning Manager – PDO.

“This PDO-EU GCC Clean Energy Technology Network executive workshop brings together policy, technology and research representatives to debate key challenges and partnership opportunities for the energy efficiency sector in the two regions,” noted Dr Mustapha Taoumi, Energy Technology Expert of the EU GCC Clean Energy Technology Network, during his opening address.

“The EU GCC Clean Energy Technology Network is a mechanism that can facilitate this interaction and exchange among the two regions,” he added.

Mr. Raoul Restucci, Managing Director of PDO, said: “PDO has made considerable achievements on energy efficiency both in our hydrocarbon and non-hydrocarbon portfolios and we all must continue to engage with academics and researchers to share best practice and seize opportunities in pursuit of a greener, more diversified economy. Events such as this show the rising importance of energy efficiency and management as we seek to curb carbon emissions and address climate change.”

Ms. Taina Sateri, Trade Counsellor in the European Union Delegation in the UAE, stated: “On energy efficiency, the European Union is keen to share with Oman and the GCC region the lessons learnt and best practices on energy efficiency standards, policies and best practice technologies, and on promoting research co-operation. EU countries have implemented energy efficiency measures in all sectors, and these have contributed considerably to a decrease in EU energy consumption.”
The Authority for Electricity Regulation Oman (AER) has warned that continuing government subsidy to the electricity sector is projected to burgeon to RO 625 million in 2019, up from an estimated RO 580 million in 2018 year – an increase it dubbed “unsustainable”.

The uptick comes despite the implementation of subsidy-free Cost Reflective Tariffs (CRT) for large industrial, commercial and government consumers early last year, which nonetheless has spurred dramatic reductions in energy use by many among the targeted segment. However, rising population growth continues to drive up electricity demand especially in the subsidized residential sector – a trend the Authority hopes to cap and reverse through intensive campaigns in support of energy efficiency and conservation.

According to Mr. Qais Al Zakwani, Executive Director of AER Oman, electricity subsidy for the sector would actually rise to a record RO 700 million in 2019, if Cost Reflective Tariffs are not factored in. An estimated 10,000 large customers with power consumption rates exceeding 150 megawatt-hours per annum fall under the subsidy-free Cost Reflective Tariffs scheme. Saddled with higher tariffs, these customers are encouraged to switch their operations to off-peak hours and thereby take advantage of lower tariffs – a measure that has been embraced by a sizable number of consumers in a bit to mitigate the impact of higher electricity costs on their profitability and bottomline.

Having eliminated subsidy for large consumers, the residential sector now remains the biggest beneficiary of subsidy, accounting for around 85 per cent of the estimated allocation of RO 625 million in 2019, said the Executive Director. This figure is anticipated to grow unless effective measures are not adopted to combat the uptrend, he noted.

For its part, the Authority has already taken steps designed to sensitize residential consumers to the quantum of subsidy they enjoy by highlighting this figure in their monthly bills. In some cases, the subsidy component can be in excess of 50 per cent of the monthly electricity bill – a feature that many consumers are unaware of, according to Mr. Al Zakwani.

By including the subsidy amount in monthly bills, the Authority hopes to nudge consumers into embracing behaviours that favour electricity conservation and energy efficiency, he said. However, any decision to reduce or eliminate subsidy for the residential or other consumer segments is primarily the prerogative of the Council of Ministers and not the Authority, per se, he stressed.

The electricity subsidy for 2017 was pegged at RO 456 million, representing a 8.3 per cent decrease compared to figures for 2016. Subsidy per customer dropped by 14 per cent from RO 463 in 2016 to RO 398 in 2017, while subsidy per unit of electricity declined from RO 16.44 per MWh in 2016 to RO 14.09 per MWh in 2017. The reduction of subsidy per customer was largely attributable to the introduction of Cost Reflective Tariffs for large consumers with effect from January 1, 2018.
The Authority for Electricity Regulation (AER) launched its Energy Efficiency and Conservation Programme under the brand name ‘Yaseer’ marking the start of a campaign that champions sustainable energy consumption for the benefit of future generations.

The programme stems from a directive issued by the Financial Affairs and Energy Resources Council in 2015, assigning responsibility for driving energy efficiency to the Authority. A comprehensive, multidisciplinary plan has been formulated in support of the national initiative.

Mr. Qais bin Saud al Zakwani, Executive Director of AER, said: “The Authority is pleased to launch the Yaseer programme as part of its continued commitment towards energy efficiency in the Sultanate. The programme comprises a series of initiatives designed to make consumers aware of the importance of energy efficiency through reduced consumption, thereby the subsidy paid by the government.”

In conjunction with the launch of ‘Yaseer’, the Authority felicitated 22 Omanis who had participated in an accredited Energy Audit certification programme conducted in cooperation with the American Energy Engineers Association. They were among 47 candidates who had registered to acquire energy audit certifications – skill-sets that will enable them to go out into the market and offer their services to government, commercial and private sector establishments as energy services providers. Around 70 per cent of the government buildings covered by the Cost Reflective Tariffs scheme for energy audit and retrofitting services offered by Energy Services Companies (ESCOs).

With a view to supporting empirical based policy making, the Authority has prepared an Energy Efficiency Data Framework in collaboration with the National Centre for Statistics and Information, Muscat Municipality, Ministry of Commerce and Industry, Supreme Council for Planning, and various Supply and Distribution companies.

At the same time, the Authority liaised with the Supreme Council for Planning, the Ministry of Commerce and Industry and the Muscat Municipality to help develop Building Codes along with codes for efficiency of electrical appliances, street lighting and others.

“I commend the efforts of Ministry of Commerce and Industry to approve the standards of energy efficiency for a number of electrical appliances, which will cease the importation of some of the most consuming appliances to the Sultanate. The process is also on-going for approving standards of split air-conditioner units and other electrical appliances,” he said.

Additionally, cost-reflective tariffs (CRT) were introduced in 2017 for large government, industrial and commercial customers with an annual consumption of 150 MWh and higher. This step led CRT customers to take appropriate measures to rationalize energy consumption, which contributed to reducing capital expenditures and government subsidy for the electricity sector, he said.

With a view to rationalising electricity use by government bodies, the Authority conducted energy audits of five government buildings during 2017-18. The main objective of the audit was to understand the trend of energy consumption and its main factors, as well as to identify measures and recommendations on how to use electricity more efficiently in these buildings. The team from the Authority presented a workshop, where the results of the government buildings audit were explained, the benefits achieved, as well as the billing system, and the tariffs,” Mr. Al Zakwani explained.
Charting a clean energy transition pathway

By Taina Sateri, Trade Counsellor with the European Union Delegation in the UAE
First of all, let me start by thanking Petroleum Development Oman and EU GCC Clean Energy Network as hosts of the event. We recognize Oman’s huge efforts and initiatives in various clean energy sectors.

This is of utmost importance as there is an urgency regarding climate change. Clean energy is the driver for mitigation and I am proud to state that Europe is leading these developments. I am also pleased to note how Oman and other GCC countries are embarking on a clean energy transition pathway which targets a more sustainable, efficient and cost-effective methods for using energy. International cooperation and partnerships are a key success factor.

I would like to share with you my view on the energy cooperation including clean energy policies and energy efficiency especially with the countries of the Gulf Cooperation Council (GCC) and why such cooperation is of strategic importance for the EU.

In the last decades, the wealth of the energy reserves of the Gulf countries and the needs of the EU for diversified and reliable energy suppliers make the two regions complementary and mutually inter-dependent via a large trade of energy products.

I would like to recall that the EU has ambitious objective of decarbonisation and sustainable development. However, oil and gas are still key elements of our energy portfolio covering approximately 60% of our current energy needs. Moreover, approximately 90% of our oil need is imported. For natural gas, the dependence from outside suppliers is more than 60%.

The countries of the GCC play a key role for EU security of supply. Currently these countries, together, represent the third largest supplier of crude oil to the EU. GCC countries belong to the largest suppliers of liquefied natural gas (LNG) to the EU and it provides half of our global LNG import.
Having said that we also need to take into account the latest developments in the global energy landscape and this bring me to the current energy framework and its latest developments.

In the recent years, the EU has implemented ambitious policies aiming at a more sustainable use of energy and at tackling the climate change challenge. I refer to our 2020 and 2030 strategies as well as to the Clean Energy for All European Package adopted by the Commission in November 2016. The Clean Energy for All European package is the most ambitious and comprehensive initiatives ever presented in order to deliver secure, sustainable and competitive energy in the 2030 perspective and to meet our Paris Agreement.

**Low carbon investments**

Over the next decade, Europe will need around €180 billion a year in additional low-carbon investments to flight climate change and to meet Paris commitments. It is clear that public money will not be enough for this. So we urgently need to put the financial sector at the service of our planet. The European Commission adopted the Action Plan on Financing Sustainable Growth in March 2018. We now have a ten-point plan for boosting private funding of sustainable and green projects. In addition, the Investment plan for Europe is already supporting investments in energy efficiency and renewable through the European Fund for Strategic Investments and the European Investment Advisory Hub. There is also strong need to step up research, development and innovation activities in the manufacturing industry of low-carbon and energy-efficient technologies. Currently, there is an instrument in the EU providing loans or loan guarantees to first-of-a-kind commercial-scale demonstration projects in the fields of renewables, hydrogen and fuel cells. Also, the policy priority to promote Circular Economy is a clear example that promotes business opportunities.

What I would like to emphasize is that the EU is not alone in its efforts toward a more sustainable energy system. The “clean energy transition” is taking place worldwide and several initiatives have been implemented at regional and global scale aiming at sustainable development and tackling climate change, the Paris Agreement, to name one of them.

We have therefore added beyond the traditional elements relevant to trading of energy products between consumers and suppliers, topics related to clean energy technologies and policies. To this end, an EU-GCC Energy Expert Group was created and meets regularly to share the latest developments in our respective energy policies and technologies with a focus on clean energy issues. Nevertheless, we also believe that our political dialogue must be underpinned by a "tool" in order to implement concrete joint initiatives in the area of clean energy between the two regions. This is why to complement the activity of the Energy Expert Group; we launched the EU-GCC Clean Energy Technology Network. The Network is designed to act as a catalyst for the development of cooperation on clean energy, policy and technology among various stakeholders in the EU and GCC countries. We wish to see such Network to be continued into the future.

**Future energy cooperation**

I would like now to move to the opportunities for future energy cooperation between the EU and the GCC. Let me start with the challenges. In the past decades, oil and gas revenues have been the drivers of growth and economic development in the six Gulf Cooperation Council countries. Global trends, however, challenge the equation that sustained oil and gas production will continue to drive the economic growth of these countries. Firstly, at global scale the transition towards a more sustainable use of energy and the Paris agreement will in the medium to longer term, decrease the global demand for oil and gas.

I am pleased to note how Oman and other GCC countries are embarking on a clean energy transition pathway which targets a more sustainable, efficient and cost-effective methods for using energy. International cooperation and partnerships are a key success factor.
Secondly, the trend concerns increased energy consumption in the GCC countries. For example, in some of these countries, the rate of electricity consumption is raising at a two digits figure. If the demand continues to rise at such pace electricity demand would double in a decade. With full respect for decisions to be taken by sovereign States, we believe that this energy trend are unsustainable for their, economy and environment.

Concerning the energy efficiency, a political agreement was reached in June 2018 in the EU for a binding energy efficiency target for the EU for 2030 of 32.5%, with a clause for an upwards revision by 2023. By using energy more efficiently, consumers can lower their energy bills and help protect environment. The EU has adopted a number of measures to improve energy efficiency. They include as an example: mandatory energy efficiency certificates accompanying the sale and rental of buildings, minimum energy efficiency standards and labelling for a variety of products such as boilers, household appliances, and lighting. Large companies are now conducting energy audits at least every four years and EU countries need to prepare a National Energy Efficiency Action plan every three years.

Heating and cooling in our buildings and industry accounts for half of the EU’s energy consumption. 84% of heating and cooling is still generated from fossil fuels while only 16% is generated from renewable energy. The heating and cooling sector must sharply reduce its energy consumption and innovation is a must.

Business opportunities

Clean energy and Energy efficiency investments will bring new business opportunities for companies such as construction firms and manufacturers of energy-using or transport equipment, which is likely to have a positive impact on economic growth. This means new jobs in manufacturing, research, and other industries investing in energy efficiency.

As I indicated earlier the global energy landscape is changing. Such changes provide for challenges but also opportunities. In past few year, we have seen various programs and initiatives in the GCC countries aiming at promoting energy efficiency and renewable.

The EU-GCC partnership represent both an opportunity for the EU to share with our GCC partners our policies and technologies of sustainable development and decarbonisation as well as an opportunity for these countries to reduce their overwhelming dependence on hydrocarbons.

GCC should capitalize on the huge opportunities that clean energy technologies are offering to undertake a smooth but courageous energy transition.

To this end, governments and policy makers should consider:

- Creating/setting up a policy framework that supports investments in clean energy technologies, helping governments to minimize costs and achieve their national targets
- Clarifying the national energy institutional framework and defining roles and responsibilities
- Reforming the current fossil fuel subsidies and create a transparent energy tariff regime.
- Building local capacities including policymakers, regulatory authorities, standardization organizations and other bodies.

On energy efficiency the European Union is keen to share with Oman and the GCC region the lessons learnt and best practices on energy efficiency standards, policies and best practice technologies and on promoting research cooperation. EU countries have implemented energy efficiency measures in all sectors, and these have contributed considerably to a decrease in EU energy consumption. With legislation and ambitious programmes we expect considerable benefits in the future.

I believe the EU-GCC Clean Energy Network is a useful tool to promote cooperation and I hope this event will allow the participants to identify and exploit areas of cooperation in the area of clean energy technology and policies.

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**CLEAN ENERGY AND ENERGY EFFICIENCY INVESTMENTS WILL BRING NEW BUSINESS OPPORTUNITIES FOR COMPANIES SUCH AS CONSTRUCTION FIRMS AND MANUFACTURERS OF ENERGY- USING OR TRANSPORT EQUIPMENT, WHICH IS LIKELY TO HAVE A POSITIVE IMPACT ON ECONOMIC GROWTH**

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**In Numbers**

Heating and cooling in our buildings and industry accounts for half of the EU’s energy consumption. 84% of heating and cooling is still generated from fossil fuels while only 16% is generated from renewable energy.
PEC and some non-OPEC oil ministers met in Vienna in December and agreed to curb their output by 1.2 mb/d in order to address growing surpluses in the market. The agreement aims to achieve relative stability and to bring the market towards balance. So far, the Brent crude oil price seems to have found a floor, remaining close to $60/bbl much where it was when the ministers met. Recently, prices have been volatile; in early October Brent crude oil prices reached $86/bbl on concerns that the market could tighten as Iranian sanctions were implemented. Then, thirty-seven days later, they fell back to $58/bbl as producers more than met the challenge of replacing Iranian and other barrels. Such volatility is not in the interests of producers or consumers.

The meeting reminded us that the Big Three of oil - Russia, Saudi Arabia and the United States - whose total liquids production now comprises about 40% of the global total, are the dominant players. Cooperation between Russia and Saudi Arabia is now the basis of production management with these two countries having a large capacity to swing output one way or the other. For them, prices falling further would place their budgets under great stress. The third, non-playing member, so to speak, of the Big Three is the United States, which is now the world’s biggest crude oil producer and where production management is a company level, economically driven decision. The United States is also the world’s biggest consumer and lower prices are welcome, although its producers will want to see them stay high enough to encourage further investment.

While the US was not present in Vienna, nobody could ignore its growing influence. On the day OPEC ministers sat down to talk, an important piece of data was published: according to the Energy Information Administration, in the week to 30 November the US was a net exporter of crude and products for the first time since at least 1991. The number, 211 kb/d, is modest and even if it proves to be an isolated data point, the long-term trend is clear. In 2018 to date, US net imports have averaged 3.1 mb/d. Ten years ago, just ahead of the shale revolution, the figure was 11.1 mb/d. As production grows inexorably, so will net imports decline and rising US exports will provide competition in many
Our estimate of 2018 oil demand growth is largely unchanged at 1.3 mb/d. Non-OECD data for September and October confirm an expected slowdown due to relatively high prices, although OECD demand has been slightly revised upwards, for 4Q18. For 2019, our demand growth outlook remains at 1.4 mb/d even though oil prices have fallen back considerably since the early October peak. Some of the support provided by lower prices will be offset by weaker economic growth globally, and particularly in some emerging economies.

For non-OPEC supply, we have revised our growth forecast for 2019 down by 415 kb/d, partly due to expected cuts from Russia agreed last week, and to lower growth in Canada. The serious build-up of stocks arising from logistical bottlenecks in Alberta led the provincial government to act very decisively to curb output. The initial cutback of 325 kb/d for three months to allow blockages to ease is a significant development. Apart from lowering production, it should narrow the differential between West Canadian Select prices and WTI, which reached $51/bbl at one point.

Demand/Supply Balance until 2Q19

*Assumes 100% OPEC compliance with Dec 2018 Vienna Agreement and further declines in Iran and Venezuela.

Time will tell how effective the new production agreement will be in re-balancing the oil market. The next meeting of the Vienna Agreement countries takes place in April, and we hope that the intervening period is less volatile than has recently been the case.◆

- Our estimate of 2018 oil demand growth is largely unchanged at 1.3 mb/d. Non-OECD data for September and October confirm an expected slowdown due to relatively high prices, although OECD demand has been slightly revised upwards, for 4Q18.
- Our projection for oil demand growth in 2019 remains also unchanged, at 1.4 mb/d, as the impact of lower prices is offset by lower economic growth assumptions, weakening currencies and downward revisions to certain countries e.g. Venezuela.
- Global oil supply fell 360 kb/d month-on-month (m-o-m) in November to 101.1 mb/d due lower output in the North Sea, Canada and Russia. Cuts from January reduce non-OPEC production growth for 2019 by 415 kb/d, to 1.5 mb/d, compared with 2.4 mb/d in 2018.
- OPEC crude oil output rose 100 kb/d m-o-m to 33.03 mb/d in November as Saudi Arabia and the UAE reached record highs, more than offsetting a sharp loss from Iran. The group agreed to cut output by 0.8 mb/d from January.
- Global refining throughput growth came to a halt in 4Q18, with annual losses in Latin America and Europe only just offset by gains in the US, Middle East and China. Lower crude prices helped margins, although the gasoline-focused US Gulf Coast lagged behind.
- OECD commercial stocks rose in October for the fourth consecutive month, by 5.7 mb, to 2 872 mb. They were above the five-year average for the first time since March. NGL and feedstock inventories hit a historic high whereas fuel oil stocks fell to a record low.
- Having fallen by 30% since early October, oil prices stabilised with ICE Brent close to $60/bbl and NYMEX WTI at $52/bbl. Weak demand weighed on gasoline and naphtha markets. Freight rates to transport crude and products have soared to multi-year highs.
Petrochemicals set to be the largest driver of world oil demand

Petrochemicals are set to account for more than a third of the growth in world oil demand to 2030, and nearly half the growth to 2050. They also face a number of climate, air quality, and water pollution challenges, according to a key study by the International Energy Agency (IEA).

**Petrochemical products are everywhere ...**

Petrochemicals, which turn oil and gas into all sorts of daily products – such as plastics, fertilisers, packaging, clothing, digital devices, medical equipment, detergents or tyres – are integral to modern societies. In addition to products critical to our daily lives, petrochemicals are also found in many parts of the modern energy system, including solar panels, wind turbine blades, batteries, thermal insulation for buildings, and electric vehicle parts.
Already a major component of the global energy system, the importance of petrochemicals is growing even more. Demand for plastics – the most familiar of petrochemical products – has outpaced all other bulk materials (such as steel, aluminium or cement), nearly doubling since the start of the millennium. The United States, Europe, and other advanced economies currently use up to 20 times as much plastic and up to 10 times as much fertiliser as India, Indonesia, and other developing economies on a per capita basis, underscoring the huge potential for growth worldwide.

Feedstocks fly under the radar. Chemicals produced from oil and gas make up around 90% of all raw materials, which are known as feedstocks; the rest comes from coal and biomass. About half of the petrochemical sector’s energy consumption consists of fuels used as raw materials to provide the molecules to physically construct products.

... and have become the fastest-growing source of oil consumption

The growing role of petrochemicals is one of the key “blind spots” in the global energy debate. The diversity and complexity of this sector means that petrochemicals receive less attention than other sectors, despite their rising importance.

Petrochemicals are rapidly becoming the largest driver of global oil consumption. They are set to account for more than a third of the growth in oil demand to 2030, and nearly half to 2050, ahead of trucks, aviation and shipping. At the same time, currently dominant sources of oil demand, especially passenger vehicles, diminish in importance thanks to a combination of better fuel economy, rising public transport, alternative fuels, and electrification. Petrochemicals are also poised to consume an additional 56 billion cubic metres (bcm) of natural gas by 2030, equivalent to about half of Canada’s total gas consumption today.

Countries, including the People’s Republic of China and the United States, will see the largest near-term capacity additions; longer-term growth is led by Asia and the Middle East. The United States is expected to increase its global market share for ethylene (steam cracking) to 22% by 2025, up from 20% in 2017. Along with the Middle East, the United States has a feedstock advantage in its access to low-cost ethane owing to its abundant natural gas supplies. This advantage allows both regions to gain the lion’s share of ethane-based chemical exports in the short and medium term. Coal-based methanol-to-olefins capacity in China nearly doubles between 2017 and 2025, providing the material inputs for its large domestic manufacturing base. In the longer run, Asia and the Middle East both increase their market share of high-value chemical production by 10 percentage points, while the share coming from Europe and the United States decreases. By 2050, India, Southeast Asia and the Middle East together account for about 30% of global ammonia production. The combination of a growing global
THE COMBINATION OF A GROWING GLOBAL ECONOMY, RISING POPULATION, AND TECHNOLOGICAL DEVELOPMENT WILL TRANSLATE INTO AN INCREASING DEMAND FOR PETROCHEMICAL PRODUCTS

economy, rising population, and technological development will translate into an increasing demand for petrochemical products. Although substantial increases in recycling and efforts to curb single-use plastics take place, especially led by Europe, Japan and Korea, these efforts will be far outweighed by the sharp increase in developing economies of plastic consumption (as well as its disposal). The difficulty in finding alternatives is another factor underpinning the robust overall demand growth for petrochemical products.

An evolving landscape for both petrochemical and oil and gas industries

Increasing global competition in the industry is driven by new supply dynamics for chemical feedstocks. After two decades of stagnation and decline, the United States has returned to prominence as a low-cost region for chemical production thanks to the shale gas revolution. Today, the United States is home to around 40% of the global capacity to produce ethane-based petrochemicals. Led by Saudi Arabia and Iran, the Middle East remains the low-cost champion for key petrochemicals, with a host of new projects announced across the region. China and Europe each account for around a quarter of the global capacity for naphtha-based, high-value chemicals, but they have only very small shares of capacity based on lighter feedstocks because of limited availability. China’s burgeoning coal-based chemical industry, once a speculative proposition, now embodies steady technological improvements. India is poised to grow strongly from its current level of only 4% of global capacity to satisfy increasing domestic demand.

Oil companies are increasingly pursuing integration along the petrochemical value chain. Against a backdrop of slower gasoline demand growth, robust growth prospects for chemical products, and attractive margins, oil companies are further strengthening their links with petrochemical markets. New, direct crude-oil-to-chemicals process routes may also come into play, offering alternatives to traditional refining/petrochemical operations although the technology remains challenging for now. For example, Saudi Aramco and SABIC have recently announced a large crude-to-chemicals project of 0.4 mb/d, five times the size of the only existing facility in Singapore.

The production, use and disposal of chemicals take an environmental toll ...

Petrochemicals face a number of climate, air quality, and water pollution challenges. Petrochemical products provide substantial benefits to society, including a growing number of applications in various cutting-edge, clean technologies critical to a sustainable energy system. However, the production, use, and disposal of these products pose a variety of sustainability challenges that need to be addressed.

Even though the chemical sector consumes roughly as much energy as the steel and cement sectors combined, it emits less CO₂ than either sector. Still,
this amounts to around 1.5 GtCO2, which is 18% of all industrial-sector CO2 emissions, or 5% of total combustion-related CO2 emissions. This is in part because the chemical industry consumes more oil and gas than other heavy industries, which tend to rely more on coal. Another contributing factor is that the carbon contained in chemical feedstocks is mostly locked into final products (such as plastics), and it is released only when the products are burned or decompose.

... but solutions are achievable and cost-effective

In our Clean Technology Scenario (CTS), which provides an ambitious but achievable pathway for the chemical sector, environmental impacts decline across the board. In the CTS, air pollutants from primary chemical production decline by almost 90% by 2050; and water demand is nearly 30% lower than in the base scenario. The CTS also emphasises waste management improvements to rapidly increase recycling, thereby laying the groundwork to more than halve cumulative, ocean-bound, plastic waste by 2050, compared to the base scenario – a major step to curb the 10 million tonnes of plastic waste that leak into the world’s oceans every year, an environmental problem that is garnering much attention across the globe.

By 2050, cumulative CO2 emission savings from increased plastic recycling and reuse are equivalent to about half the annual emissions from the chemical sector today. In the CTS, the global average collection rate of plastic waste increases nearly three-fold by 2050. This results in increased production of recycled plastics and a cumulative saving of around 5% in high-value chemical demand, compared to current trends. This outcome poses a significant technical challenge, requiring mature economies to raise average collection rates to the maximum practical level and emerging economies to match the best rates achieved today.

The sector’s clean transition is led by carbon capture, utilisation and storage (CCUS), catalytic processes, and a shift from coal to natural gas. Some of the most cost-effective opportunities for CCUS can be found in the chemical sector, which explains its leading role among scalable options for reducing emissions. Catalytic alternatives to traditional process routes can provide more than 15% of energy savings per unit of production. Shifts from coal to natural gas for both ammonia and methanol production, mainly in China, result in decreases in both process emissions and energy intensity. Despite falling investment costs, processes based on electricity and biomass struggle to compete on cost in most regions, due to high prices in a world where these low-carbon energy carriers are in high demand.

The surge in the share of lighter oil products required for petrochemical feedstocks may pose challenges for refining in the CTS. Oil demand related to plastic consumption overtakes that for road passenger transport by 2050. This has important implications for refiners whose processes are currently set up to produce both heavy and light products. The increase in light tight oil (LTO) production in the United States is expected to help address the challenge because LTO is an easier starting point for producing lighter oil products. However, the long-term sustainability of this contribution will also depend on how the resource base, technology, and market conditions of LTO evolve.
When a rare ray of certainty shines through the mist of guesswork in the energy markets, we must be proactive. We know that the world’s energy market faces its most challenging tightrope yet: meet rising energy demand and simultaneously hit the unprecedented low-carbon targets that are detailed in the Paris Agreement. What isn’t certain is how to achieve it. So, now we must pinpoint how the historic alliance between the Middle East and Asia can help producers on both sides of the Indian Ocean achieve the holy grail: affordable low-carbon energy security. Collaboration and innovation are vital tools for producers trying to keep their balance as this 21st century energy transition gains traction. BP Outlook expects the Middle East’s energy consumption to rise by 54% by 2040. To the east, China and India are two of the world’s largest energy markets and the 60% growth in energy demand over the last 15 years in the Association of Southeast Asian Nations (ASEAN), detailed by the International Energy Agency (IEA), is likely to continue. Swelling populations largely underpin this surge. The United Nations (UN) expects Asia will be home to two of the world’s biggest populations by 2024, with 1.44 billion people in both China and India. Expanding populations are also forecast across the rest of Asia; Malaysia’s population will climb by 32% from 2017 to 41.7 million people by 2050, for example and in the Middle East, the 39% growth rate in the UAE’s population to 13.1 million by 2050 generally echoes across the region.
So, what are the potential release valves to these burgeoning pressure points? The rise of renewable energy, leveraging gas as the ‘greenest’ fossil fuel and greener enhanced oil recovery (EOR) are on the still-exploratory list.

Renewable energy is a key focus area for both regions. The IEA expects Asia to be home to two of the three countries – China, US, India – that will account for two thirds of the global renewable expansion up to 2022 and renewables are an integral thread in the energy strategies of most Gulf countries’ National Visions. The UAE, long an advocate of solar power, also launched the world’s largest Concentrated Solar Power (CSP) project last year. Looking ahead, how can the expertise of these renewable pioneers be leveraged so they co-author an even more impressive chapter? And how can new sweet spots in the ancient east-west alliance be leveraged via China’s Belt and Road Initiative (BRI), India’s Think West policy and Gulf nations’ plan to widen their influence outside the Middle East?

Regulatory shifts in the global bunkering market offer another collaborative opportunity in the liquified natural gas (LNG) market. LNG is an increasingly popular option to meet the International Maritime Organization’s (IMO) ruling to introduce a 0.5% sulfur cap on bunker fuels, down from today’s 3.5%, by the 1 January 2020. Alignment between the two regions on leveraging LNG bunkering makes sense. Maximizing the use of natural gas and LNG, considered the ‘greenest fossil fuel’, is part of energy strategies in both regions, which are also home to the world’s first and second largest bunkering hubs: the Port of Singapore and the UAE’s Port of Fujairah, respectively.

We are eager to build on our collaboration with Abu Dhabi-based Masdar to pursue opportunities in renewable energy and clean technologies, both locally and internationally. In particular, we want to learn from their experiences in developing solar farms, keeping the overall levelized cost of electricity (LCOE) low and their extensive renewable developments outside of the Middle East.

Cutting CO₂ emissions from EOR is another vital link in the balancing act, especially as the market expands. Transparency Market Research expects the global value of the market to soar from $38.1 billion in 2012 to $516.7 billion by 2023. But EOR stakeholders cannot play by the old rules; low carbon operations must be implemented to prevent producers slipping from the tightrope. What lessons can be gleaned across the Middle East and Asia from Oman’s groundbreaking Miraah project? The collaboration between state-owned Petroleum Development Oman (PDO) and GlassPoint has created one of the world’s largest solar plants, which generates 6,000 tons of steam a day in support of the sultanate’s EOR efforts.

The list of potential synergies goes on. How can a concerted strategy hasten the electrification of energy markets and affordably diversify refiners’ crude palette to increase the supply of biofuels? And how to help the aviation industry adjust to the UN’s International Civil Aviation Organization’s (ICAO) new offsetting scheme, the Carbon Offset and Reduction Scheme for International Aviation (CORSIA), from 2021? And how to improve the utilization of wastewater in energy production amid warnings by the World Economic Forum (WEF) that scarcity is a top global risk?

Answering even elements of these multifaceted questions will quicken the Middle East and Asia’s journey towards sustainability and showcase their influence as low-carbon pioneers on the global energy stage. Together, they can clear the mist.

The collaboration between state-owned Petroleum Development Oman (PDO) and GlassPoint has created one of the world’s largest solar plants, which generates 6,000 tons of steam a day in support of the sultanate’s EOR efforts.

In Numbers

Transparency Market Research expects the global value of the market to soar from $38.1 billion in 2012 to $516.7 billion by 2023.
Why is the benchmark value of Oman crude oil sometimes spectacularly different when assessed by S&P Global Platts, compared to the value established for the very same crude oil through trading on the Dubai Mercantile Exchange?

It is an important question because the answer shines a bright spotlight on how different the DNA can be for different price benchmarks representing the same market, which ultimately can have huge value implications.

In the last week of September, physical Oman crude for loading in November surged to settle as much as $7.61 per barrel higher on the DME, when compared to the value of physical Oman delivered for the same month, as assessed by Platts. To put it another way, Oman was at times 10% more expensive when valued by the DME reference price than by the Platts Oman benchmark – raising the value of a VLCC loaded with Oman by $15 million. Significant price differences between DME Oman and Platts Oman continue this month.

But why? In itself, the crude is the same, the loading dates are the same, the time of trading is more or less the same, and the market participants active in trading Oman oil are broadly the same. At first glance, arbitrage alone should theoretically prevent Platts Oman and DME Oman from decoupling too much.

Understanding how Platts and DME Oman are different reveals how vital it is to understand the DNA of any benchmark, especially if you plan to use one to better understand the value of a multibillion-dollar oil market.

Oman Blend is a medium sour grade of crude oil that has served the world markets well for many decades. It is openly traded on the spot market without destination restrictions. It is popular with buyers as diverse as China’s ultramodern refineries to the ageing California refinery fleet, burdened as it is by high costs and challenging economics.
With no shortage of buyers, stable production, a diverse trade community and a sterling reputation for quality and reliability, it is easy to see why the value of Oman crude has become a key benchmark and a good reference for understanding global crude prices.

Trading activity alone is just one input into the value of a benchmark. The final benchmark price from any provider is shaped by three core forces: the definition of the benchmark, the way market data is collected, and the analytical approach applied to that data to come up with a single, final value. Taken together, these three forces are what we call methodology at Platts.

Platts Oman and DME Oman represent the same crude oil, but they differ in each methodological respect. The value of Oman on the DME reflects the value of Oman on its own. The value of Oman as assessed by Platts reflects the value of Oman, but also includes the potential delivery of Murban crude oil from Abu Dhabi, at the seller's option, if economics support delivering an alternative crude oil.

Platts collects data from across the spot markets using our Market on Close assessment process, which is underpinned by transparent bids, offers and trades with named counterparties. The DME reflects trade on the exchange with its own, publicly described price settlement process.

The challenge is to understand the differences in methodology, and then to consider which methodology best suits the market's needs.

Platts introduced Murban as an alternative delivery crude oil for our Oman benchmark in January 2016 along with a Quality Premium that reflects Murban's relatively premium market value. That followed deep industry consultation through 2015, when many market participants highlighted the value of having a pressure release valve for Oman.

Just a few months ago Total delivered a cargo of Murban to Shell instead of an Oman shipment in the Platts MOC - the very first time this particular alternative delivery was used, demonstrating the importance and value of the idea.

As a general guideline, the more popular a crude oil is among buyers, and the more relevant the price is for the global economy, the more essential new ideas and innovations like alternative delivery are - and they usually need to be introduced long before they are actually needed.

We have pioneered alternative delivery mechanisms for Platts Brent, Platts Dubai and indeed Platts Oman. In our view, a strong crude benchmark needs at least a million barrels per day of deliverable oil from the spot market to support it, including the core grade and its alternatives.

When you break down the economics of Oman crude - including the fact that 200,000 barrels per day or more of production is already committed to local refining - the case for alternative delivery is strong indeed, especially when you consider other factors like field maintenance. Logistical headaches like standard field work can be major migraines for benchmarks that aren't well prepared.

In reality, evidence that Platts Oman and DME Oman are actually very different benchmarks has been in front of all of us for years. Platts Oman and DME Oman have decoupled more than 20 times since we introduced the Murban alternative delivery mechanism in 2016. And over the lifetime of the two benchmarks, Platts Oman and DME Oman have often been very different indeed. At the end of the day, it is up to market participants to decide which benchmark price best meets their needs.
As the world’s biggest oil companies, including the UAE’s ADNOC and Saudi Aramco, ramp up investments in new production capacity amid $75 oil prices, they are eagerly eyeing new digital tools that could deliver millions of dollars in savings. Enter predictive analytics – the closest an industry beset by uncertainty and technical complexity can get to a crystal ball.

Already, more than half (57) of the world’s 100 largest oil and gas firms – several in the Middle East – are already using or have plans to use predictive analytics, according to LR’s latest Technology Radar Special Report, titled ‘Predictive Analytics in Oil and Gas: The future in focus’, which was launched in Abu Dhabi on the eve of ADIPEC 2018.

One tool alone, Machine Learning and predicting failures has, for example, been found to generate savings of many hundreds of thousands of dollars per drill rig and multiple millions on gas pipelines in the eastern US. Giving predictive analytics a cold shoulder would be a costly mistake for Middle Eastern oil, especially when you consider there are 160 offshore rigs alone operating across the Gulf.

This advanced form of analytics expands on the digital journey established by artificial intelligence (AI), big data and others. It promotes visibility – the bedrock of reliability and efficiency in global energy security. How to glimpse into the future – i.e. leveraging predictive analytics – will be at the top of the digital
agenda of boardroom conversations in the Middle East in 2019.

Sweet spots abound. Within the top 100 companies, evidence of predictive adoption is most extensive upstream, in oil-field equipment and services, exploration and production.

The largest firms, mainly integrated oil and gas companies, appear to have advanced furthest. Midstream and downstream can also significantly benefit in the Middle East, especially since the region took the aged refining reins from Europe to establish one of the world’s most sophisticated and flexible hubs.

Imagine the enormous impact on Profit & Loss accounts, Balance Sheets and competitiveness, if predictive analytics can be properly applied to the large number of ageing refineries around the region and to the raft of new facilities being planned and soon to come on line. This has durable value, as the International Energy Agency (IEA) expects the region to have the world’s biggest growth in refining capacity up to 2023.

Over the next five years, this cutting-edge digital tool can bolster production while streamlining costs and cutting risks. That’s a very good deal for those willing to grab the opportunity.

**Digging for diamonds**

‘Data diamonds’ are key to unlocking the most valuable insights via predictive analytics. The global data sphere will grow to 163 zettabytes (ZB) by 2025, which is a trillion gigabytes and a staggering ten times the 16.1ZB of data generated in 2016, according to the International Data Corporation (IDC).

As data volumes surge, tools like predictive analytics will enable companies to focus on the quality of information rather than an overload. Quality over quantity will prevail! The more data intelligently gathered, the more it is analyzed, the more lessons are learned, and the more efficiencies and visibility will be achieved.

This intelligence will be a much-needed release valve in what is an increasingly intense pressure cooker in the Middle East and beyond. Energy stakeholders face tall orders on every front. Energy consumption in the Middle East alone is expected to rise by 54 per cent up to 2040, according to BP Outlook, while the near-30 per cent gain that the United Nations’ (UN) expects in the global population by 2050 is also echoed in most Gulf countries.

Demanding environmental regulations spawned by the Paris Agreement and cross border geopolitical tensions that hinder collaborations are also ramping up the ante. The pressure cooker cannot afford to blow. Smart and swift solutions that maximize the clout of the digital revolution are the safest answer in an industry renowned for its myriad of unknowns. The OPEC+ agreement (the deal between OPEC and non-OPEC members to curtail output), the US’ sanctions on Iran, trade wars and environmental regulations like the International Maritime Organization’s (IMO) sulfur cap of 0.5 per cent on bunker fuel from 2020 are all potential triggers for volatility in the Middle East’s oil market.

The multi-billion-dollar savings identified in LR’s Technology Radar special report have the power to help stabilize Middle Eastern oil stakeholders’ balance sheets and spur much-needed research and development (R&D) to commercialize digital innovations. The latter is especially relevant to many Gulf nations’ Visions to become knowledge-based economies; the UAE included.

Primary players from energy companies, technology firms and government to academia and financial institutions (FI) must lower the brick walls that crimp the flow of knowledge sharing. This is not new territory for Middle Eastern oil stakeholders; their track record since the sharp decline in oil prices in 2014 for sharing knowledge and embracing digital disruption stands them in good stead.

Predicative analytics are essentially a highly intelligent heads up that enables proactive action to be taken affordably and efficiently, saving millions of dollars and potentially even lives. While Middle Eastern oil stakeholders’ digital tools have been shedding light on the dark corners of operational inefficiency for years, predictive analytics gives them a very powerful spotlight to see every detail. They must be patient and persevere; the 20/20 vision will be worth it.

**In Numbers**

The global data sphere will grow to **163** zettabytes (ZB) by 2025, which is a trillion gigabytes and a staggering ten times the **16.1ZB** of data generated in 2016, according to the International Data Corporation (IDC).
Untapped Reserves: Promoting Gender Balance in Oil and Gas

International oil and gas companies are failing to fully leverage a potentially sizable and critical pool of talent, says a report jointly produced by the World Petroleum Council and Boston Consulting Group (BCG), which seeks to boost women’s representation in the industry.

Representing roughly a fifth of employees in the oil and gas industry, women account for a significantly smaller share of the workforce than they do in almost any other sector. These women also work disproportionately in office jobs; they have a very limited presence both in technical roles, which are often considered prerequisites for career advancement, and in upper management. The upshot: oil and gas companies are failing to fully leverage a potentially sizable and critical pool of talent. The loss to the industry is threefold. First, oil and gas companies have a smaller number of highly qualified candidates to choose from when filling positions, especially in the middle and higher ranks, because many talented women either never join the industry or drop out prematurely. Second, these companies miss out on the higher quality of teamwork, diversity of perspectives, and creativity in the solving of technical and business problems that characterize those with larger percentages of female employees. Third, the industry’s relative lack of gender diversity, particularly in the senior ranks, hurts its reputation among women as a career choice. This can create a vicious circle, with the industry finding it progressively more difficult to recruit women across the board. The combined effects could ultimately weigh heavily on oil and gas companies’ ability to increase capital productivity, which will be vital as they wrestle with the challenges posed by the potential large-scale retirement...
of many experienced employees, an ongoing uncertain oil price environment, and advances in robotics and artificial intelligence that could reshape the industry in a host of ways.

But attracting and retaining greater numbers of women, particularly those with optimal backgrounds and skill sets, will pose challenges for the industry. These include the limited number of girls and women pursuing technical educations, structural barriers within the oil and gas industry that make it difficult for women to advance and to balance work and family, and an established male-centric culture that remains prevalent throughout much of the industry. We strongly believe, however, that the industry can and must surmount these challenges and close the gender gap if it hopes to position itself optimally for tomorrow.

The following are the key findings of our report:

The percentage of women in the industry’s workforce drops over time and falls particularly sharply—from 25% to 17%—between the middle-management and senior-leadership career stages. This trend won’t change unless CEOs make gender diversity a higher strategic priority. Although 56% of men believe that their CEO considers gender diversity important or very important, only 36% of women do. CEO commitment matters because many employees, especially men, take their lead from the CEO. Of men who think their CEO considers gender diversity very important, only 7% consider it unimportant or very unimportant themselves, while 86% consider it important or very important. Conversely, of men who think their CEO considers gender diversity very unimportant, 58% likewise consider it unimportant or very unimportant, while only 34% consider it important or very important.

Although men and women start out on an equal footing, women rarely reach the top of the organization. This isn’t owing to a lack of ambition: our research shows that women are just as ambitious as men. So what’s the reason? Men, especially those in senior positions, attribute the phenomenon largely to a shortage of qualified female candidates. This assessment is probably accurate: among women who have spent many years in the industry and might otherwise be considered suitable
candidates for promotion to senior management, many have failed to accumulate the critical experiences that their male colleagues have. Thus, even among women who are still at the company after 15 to 20 years, the odds of landing a senior executive job are small: women hold less than 20% of these positions. **There are wide gaps in perception between men and women regarding the gender-related challenges that women face.** For example, men believe that women are generally less flexible than men and therefore less suited to certain roles, including many expatriate positions and jobs in the field. But our research shows that women are in fact just as flexible as men, and sometimes even more so. The differences in opinion between men and women about the challenges women face are particularly evident with regard to women’s underrepresentation in the senior ranks. Fifty-seven percent of women said that female employees receive less support for advancement into senior positions than male employees; only 24% of men agreed. Fifty-six percent of women said that women are overlooked for senior positions; only 23% of men agreed.

**Unless companies develop a critical mass of women across all roles, meaningful progress toward gender balance in the industry will not occur.** Many oil and gas companies are making a genuine effort to improve gender diversity through recruiting practices, work-life-balance policies, and other means. But these measures have not produced the desired results, in large part because they are too hands-off, failing to focus on meaningful quantitative targets. While an average 22% of jobs in the industry are filled by women, a look at specific job categories tells a different story. College-educated women hold fully 50% of entry-level office and business-support positions, but they hold only 15% of entry-level technical and field positions. **There are many actions the industry can take to increase the number of female**
employees and accelerate its progress toward gender balance. The industry must look holistically at the various functions—especially technical ones, where women’s representation is particularly low—and establish targets that will boost women’s presence to the point of critical mass.

The industry should also take specific actions centered on three critical career stages:

- At the entry level, the industry can expand the talent pool it draws from by taking steps to increase women’s participation in STEM programs. It can enhance its attractiveness to women as a career choice by promoting the wide range of jobs available and making career paths more flexible, working with governments to remove structural barriers that make it difficult for women to work in the industry, and increasing the number and visibility of senior female role models.

- At the midcareer level, the industry can work to ensure that women have the same career opportunities as men, that each woman has a sponsor who can offer career guidance, and that work-life-balance policies are available and applied equally to male and female employees.

- At the senior-leadership level, the industry can provide stretch goals for women and the necessary support to help them succeed, broaden the range of career paths from which senior leaders are picked, and ensure that standards for promotion are applied equally to men and women.

Greater gender balance is a worthwhile and attainable goal for the industry, and one that it has the means to achieve. Provided that leadership commitment, especially from CEOs, remains sufficiently strong, the industry could boost women’s representation steadily and materially over time—and reap a host of benefits, including improved organizational performance, creativity, decision making, and morale.
PROMOTING GENDER BALANCE
A consolidated list of recommendations

Entry Level: Strengthening the Inflow of Women
- Promote STEM programs among girls and young women, and offer scholarships and internships to high-potential female students.
- Establish clear recruiting targets for men and women, and develop appropriate KPIs for attracting and retaining women.
- Consider outside-the-box approaches to recruitment.
- Promote the wide range of roles available in the industry, from jobs in engineering to jobs in supply chain operations, environmental management, and geological research.
- Actively foster greater flexibility in women’s careers, especially in the early stages.
- Work to remove structural barriers that thwart women’s advancement in the workforce and particularly in the oil and gas industry.
- Develop a larger number of visible female role models in the industry’s senior ranks.

Midcareer: Maintaining Women’s Enthusiasm
- Ensure that women are aware of and are offered the same career advancement opportunities that men are.
- Encourage women to make their career goals clear.
- Create more-flexible career paths.
- Insist on the development of separate and sufficient facilities and accommodations for women working in field roles.
- Insist that every executive and senior manager take at least one talented female employee under his or her wing.
- Insist that every executive and senior manager take at least one talented female employee under his or her wing.
- Formulate policies and offer services that make the industry more accommodating for both genders.
- Encourage utilization by both male and female employees of policies that encourage a better work-life balance.
- Give women influential roles in developing those policies.
- Consider instituting job sharing, specifically where possible.
- Make policies that support gender balance, such as bias awareness training, mandatory for all employees, especially leaders.

Senior Leadership: Increasing Women’s Representation at the Top
- Provide women with stretch goals and the necessary support to achieve them.
- Talk shop with women.
- Broaden the criteria for inclusion on the list of high-potential candidates.
- Apply uniform standards when making promotion decisions.

Making It Happen
- Ensure that there is strong leadership and demonstrated commitment to gender balance from the top of the organization, especially the CEO.
- Adopt an inclusive, gender-neutral approach to advancement, coupled with quantitative targets that support growth in women’s representation.
- Work to instill in women greater confidence in themselves.
- On-the-job training under the guidance of mentors from CB&I.

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<th>EXHIBIT 15</th>
<th>Contrasting Views on Why Women Are Underrepresented in the Senior Ranks</th>
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<td><strong>Reasons identified by women</strong></td>
<td><strong>Reasons identified by men</strong></td>
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<tr>
<td>Women get less support</td>
<td>There aren’t enough qualified women in the industry</td>
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<td>Women are overlooked</td>
<td>Women aren’t flexible enough</td>
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<td>Women aren’t confident enough to ask</td>
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<td>Promotion doesn’t require women</td>
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<td>Women don’t stay in the job as long</td>
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<td>Women don’t want senior leadership positions</td>
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<tr>
<td>None of these reasons</td>
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% respondents
Omani women constitute less than 10 per cent of the workforce in Oman's Oil & Gas sector – a gender imbalance that must be suitably tackled through the implementation of a number of employment-related measures, according to a key study by the Ministry of Higher Education.

The Female Empowerment Survey, undertaken by the Ministry in collaboration with Oman Society of Petroleum Services (OPAL), sought to understand the demographical composition of the Sultanate's Oil & Gas industry with a view to being suitably geared to meeting the educational, professional and entrepreneurial aspirations of young Omani women.

As many as 1,735 women, who were employed in the sector, or had resigned or rejected offers to work in the industry, were invited to participate in the survey. Of this number, 1182 women eventually did complete the survey. They offered their opinions on two broad themes: (i) their reasons for opting to work in the Oil & Gas sector, and (ii) concerns, if any, to be working in the oilfield areas in an essentially male-dominated industry while aspiring for career growth as well.

Based on feedback garnered from the respondents, the Ministry underlined the need for steps to enhance the presence of women in both office and field-based jobs in the Oil & Gas sector. Females constitute less than 10 per cent of the employees in the Oil and Gas Sector in Oman, it stated in its report. In contrast, females constitute 20 – 25 per cent of the workforce in the global oil and gas industry (World Petroleum Council, 2017), it said.

The report points to a strong bias that works against women in the labour market. Although women account for 78 per cent of total job-seekers at an given time, the labour market creates more job opportunities for males than females, according to the study. “Current national employment practices create more job opportunities for males than females,” it noted.

Calling out this incongruity, the report stressed: “Companies could tap the abundance of qualified females to increase their participation rate in this sector, utilizing their willingness to work in both office-based and site locations as expressed in this survey (by providing the required facilities). More than two-thirds of females working in the sector are originally from Muscat. It might be worthwhile directing future recruiting efforts to support an equal representation from the governorates.”

Additionally, the study called for improvements and enhancements in pri-
private sector maternity benefits to help retain and attract more female employees. It explained: “As most of the female population in the Oil and Gas sector are younger than 40 years, married and with 5-year-old or younger kids, family education/health plans and maternity leave are top priorities for females.”

The Oman Labour Law limits maternity leave privileges to a maximum of three sets of maternity holidays. “This article is not helping in attracting females to the private sector in general and to the Oil and Gas in specific. Other articles in the (Labour) Law which may limit attracting females into the private sector are Article (81) and Article (82) which respectively state: ‘Females shall not be required to work between nine pm and six am save in cases, works, and occasions specified by a decision by the Minister’; and ‘Women shall not be required to perform works which are harmful to the health or hard works or such other works as may be specified by a decision of the Minister’,” the Female Empowerment Report noted.

In their responses to the online survey, many women called for, among other privileges, breastfeeding hours and part-time working post maternity. More than a third of the respondents said the ‘three-leaves’ limit for maternity leave would compel them to quit their jobs.

Importantly, the report called for efforts to boost the number of women in senior positions in the industry, and to put in place clear career progression plans for women. At least 31 per cent of the respondents said they were given less opportunities for career progression than males. Incidentally, women account for less than three per cent of the total workforce in the oilfield areas. Even so, a third of the respondents said they would consider relocation to oilfield sites if their jobs come with clear career growth plans along with health and education benefits for family members.

Basma OPAL: Espousing gender diversity in the workplace

‘Basma OPAL’ is the title of a new initiative launched by the Society that seeks to encourage Omani women to take up employment in the private sector. Launched last December, Basmat OPAL envisions a broad-based strategy to get more women into private Oil & Gas companies. In addition to training and awareness building efforts, it moots the establishment of a working group to identify impediments to female employment in private sector. Besides, it seeks to recognise and reward companies that champion gender diversity in the workplace.

Also as part of the Basmat campaign, OPAL plans to conduct, on the one hand, and support, on the other, conferences and workshops focusing on women’s employment and workplace issues. An annual event dedicated to this objective is proposed to be introduced as well.

“In OPAL, we believe that women leave their distinctive mark within the home, at the workplace, and in society in general. For these reasons, OPAL is eager to nurture workplace environments that are conducive to the professional growth and development of Omani women, while enabling them to achieve a more positive work-life balance.”

To this end, OPAL is weighing plans to institute awards recognizing the following:

i) Best Women-Friendly Workplace
ii) Women Employer of the Year
iii) Leading Supporter of Women’s Career Development
PDO awards landmark contract for Amin solar IPP

Proposed tariff of 100MW project is one of the lowest in the history of solar IPPs worldwide

Petroleum Development Oman (PDO) awarded a landmark contract to build and operate a solar photo voltaic Independent Power Producer (IPP) project to the Marubeni Consortium, consisting of Japanese company the Marubeni Corporation, the Oman Gas Company SAOC, Bahwan Renewable Energy Company LLC and Modern Channels Services LLC.

The project, billed as a world-first in the use of solar power for electricity generation in the Oil & Gas sector, marks a step change for renewable energy in the Sultanate.
PDO will buy electricity for its Interior operations from the installation at Amin in southern Oman at one of the lowest tariffs in the world. The Company said the rate showed the “huge potential” for the country to produce solar energy at commercially attractive prices.

The contract was signed by Mr. Raoul Restucci, PDO Managing Director; Mr. Toshihoro Maruo, Senior Officer of Marubeni Corporation’s Power Business Division; Mr. Sultan bin Hamed Al Burtmani, Acting Executive Managing Director, the Oman Gas Company; Sheikh Ahmed Suhail Bahwan, Chairman, from Bahwan Renewable Energy Company LLC; and Mr. Sadiq Salim Sulaiman Al Fairuz, Managing Director, Modern Channels Services LLC.

The desert facility will be the first of its type in Oman and will also be the world’s first utility-scale solar project to have an oil and gas company as the sole wholesale buyer of electricity.

Construction began in January 2019 and the site will span 4 km2, the size of 480 football pitches. The installation will consist of more than 335,000 solar PV panels, producing enough energy to power 15,000 homes.

The project will be structured as an IPP under the terms of the power purchase agreement for a period of 23 years from the scheduled commercial operation date, which is planned for May 2020. The consortium will build, own and operate the facility and then transfer it back to PDO.

The plant is expected to introduce an equivalent fuel saving of 70.5 million m3 of gas annually, resulting in a total saving of US$17 million a year through the use of solar power as an alternative to natural gas. It will also reduce overall carbon dioxide (CO2) emissions by around 137,121 tons annually, the equivalent of taking 23,000 large cars off the road.

Speaking at the formal contract award ceremony at Mina Al Fahal, PDO Managing Director Raoul Restucci said: “We are delighted to sign this contract which marks a significant step in our transition to a fully-fledged energy company with a greater emphasis on renewables.

“The tender for the IPP was released in February this year and we received competitive bids from highly reputed developers in the renewable energy industry, testament to the credibility of PDO’s commitment to the renewable energy sector and the huge potential of this sustainable use of natural resources for power generation in Oman.

“The proposed tariff is one of the lowest in the history of solar IPPs worldwide so far and underlines the significant opportunity for Oman to produce low-cost energy using solar.

“The electrical power produced will feed into our transmission system and contribute to off-setting the use of natural gas for power generation and reduce greenhouse gas emissions.”

The project includes the design, procurement, construction, commissioning, financing and operation and maintenance of the solar photo voltaic plant with a 100 megawatt (MW) capacity and associated infrastructure.

Marubeni is one of Japan’s leading trading and investment houses and operates more than 50 power projects with a total generation capacity of more than 41 gigawatts (GW) worldwide, with a third of this in the Middle East region.

Toshihiro Maruo, Senior Officer of the Marubeni Corporation’s Power Business Division, said: “We are very excited to take a lead developer role in this amazing project. We have recently announced a new corporate strategy confirming our intention to double our current capacity of renewable energy so that it will make up at least 20% of our portfolio within the next five years. The Amin IPP project is our first success since the announcement of our new strategy and we are delighted to receive the award of this prestigious project.”

PDO has already ventured into solar energy with the giant Miraah solar plant in Amal which it is developing with partners GlassPoint Solar to produce steam for thermal enhanced oil recovery.
Oman Gas Company (OGC) – Oman Oil Company’s energy infrastructure vertical – inked an agreement with seven international and local financial institutions to secure funding for its capex requirements under a new business model for its gas network.

The signing ceremony took place under the patronage of HE Salim bin Nasser al Aufi, the Undersecretary of Ministry of Oil and Gas, and was attended by key Oman Oil group representatives, governmental representatives from Ministry of Oil and Gas, and Ministry of Finance, as well as representatives from the signing banks.

Given the mandate to develop and invest in the sustainable growth of the national energy infrastructure, OGC invests heavily in domestic gas, power and oil infrastructure projects to support the growing domestic energy demand and maximising the value of Oman’s hydrocarbon resources. In order for OGC to be financially independent and be able to finance the acquisition of government assets and expand its network, it needs to reform the means by which its revenues are determined.

To this end, a new framework was agreed with the government (based on a Regulatory Asset Base). RAB is a system of long-term tariff design aimed primarily at encouraging investments in the expansion and modernization of infrastructures, such as gas networks.

The new Regulatory Asset Base (RAB) will help OGC to successfully refinance the bank bridge through the Debt Capital Markets resulting in implementation of a longer-term capital structure. A total of USD 1.1bn of financial efforts have been adopted to build the Bridge to Bond Financing Strategy.

“As the Sultanate’s investment arm in the energy and related sectors; Oman Oil Company is playing a pivotal role in driving the country’s economic diversification and growth to maximise the value of local natural resources. This initiative is a major milestone for us as a group of companies. By adopting this new structure, we are reflecting the actual cost of transmission and allowing for more transparency in pricing, as well as easing the process of expansion and funding. This will in turn help OGC become more financially independent, which is the direction that we are all heading towards,” stated OOC’s CEO.

“The new structure is the first project of its kind in the Sultanate and will allow OGC to operate independently with appropriate financial and operational incentives to encourage efficiencies by consolidating, owning and operating all government gas transmission assets. This would in turn provide a solid basis upon which the wider Omani gas sector can be further developed. In addition, Oman Gas Company has started transforming into a leading midstream company focusing in Gas, Oil, Power (conventional and renewable) infrastructure said Sultan bin Hamad al Burtnani, OGC Acting Executive Managing Director.

[5 November 2018]
GlassPoint Solar and Occidental of Oman announced today that they have signed a Memorandum of Understanding (MoU) that could lead to a large solar thermal energy plant, exceeding two gigawatts, at the Mukhaizna oilfield in the Sultanate of Oman.

As the lead developer of the proposed project, GlassPoint would deploy its proven solar technology to produce up to 100,000 barrels of solar steam per day. The solar steam would be purchased by Occidental and used to facilitate production of heavy oil. With preliminary studies complete, engineering work has now commenced to define the project scope and field integration plans.

HE Dr. Mohammed bin Hamad Al Rumhy, Minister of Oil and Gas said, “As we continue to diversify Oman’s economy and develop the renewable energy sector, we are also identifying ways to save our natural gas resources. Oman’s vast heavy oilfields present one of the largest opportunities to deploy solar energy and conserve gas, which can instead be used to fuel industries and generate power. We’re pleased to see this progress between Occidental of Oman and GlassPoint, which can deliver substantial economic and environmental benefits to the country.”

Operating in Oman for more than 30 years, Occidental of Oman is the largest independent oil producer in the country. At the Mukhaizna field, Occidental of Oman has implemented one of the world’s largest steam flood projects for enhanced oil recovery (EOR).

GlassPoint’s solar steam generators use large mirrors to concentrate sunlight and boil oilfield water into steam. Occidental of Oman would purchase the steam under a long-term off-take agreement, providing a cost-effective, zero-emissions alternative to steam generated using natural gas. The proposed solar project could save more than 800,000 tons of carbon dioxide (CO2) emissions each year.

Occidental Petroleum’s global strategy includes active investment in CO2 EOR and carbon capture, utilization and storage (CCUS), as well as other emissions-reducing technologies. This low emissions energy utilization project and approach is one aspect being explored and commercialized by Occidental’s Low Carbon Ventures business unit in partnership with asset teams across their global operations. This project will enable technical learning and commercialization success to promote similar projects in other areas to help reduce Occidental’s global carbon footprint.

Steve Kelly, President and General Manager of Occidental of Oman said, “We are excited about working with GlassPoint to enhance our environmental stewardship in Oman and strengthen Occidental’s position in the lower-carbon economy.”

Steven Moss, CEO of GlassPoint Solar said, “We’re looking forward to building on our success with another major solar project in Oman. Occidental of Oman’s interest shows the scale of opportunity renewables can play in reducing the energy use and environmental impact of oil production. We’re pleased to work with Occidental of Oman to grow Oman’s solar industry and the global market for solar powered oil production.”

[13 November 2018]
Oman has announced plans to offer six new oil and gas blocks for investment as part of the 2019 Licensing Round due to be unveiled in the first quarter of next year. The new blocks – distributed across the play fairway onshore Oman – underscore sustained investor confidence in the Sultanate’s upstream energy sector, according to a high-level official of the Ministry of Oil and Gas.

Dr. Saleh al Anboori, Director General of Planning and Studies, identified the new acreage on offer as Blocks 70, 73, 74, 75, 76 and 58.

The official made the announcement during the opening session of the 2nd OPAL Oil & Gas Conference at the Oman Convention & Exhibition Centre. Speaking on the theme, ‘Investing in Oman’s Oil & Gas Industry’, he said the six blocks represent new acreage that is surrounded by existing oil and gas fields. They will be awarded against Exploration and Production Sharing Agreements (EPSA).

In addition, two other blocks are also open for investment based on ‘One-to-One’ negotiations with qualified international parties with the technological wherewithal and resources required to unlock the challenging hydrocarbon potential of these concessions. They include Block 71, containing the Habhab field, home to a multibillion barrel (STOIIP) ultra-heavy oil reservoir. The other concession is Block 43B.

According to the official, Oman’s upstream sector has remained a magnet for local and international investment by E&P players even when the global oil market has been in relative turmoil. As many as 29 blocks are currently the subject of EPSA agreements, up from 17 blocks in the year 2000, he said. Of this total, 12 blocks are currently producing hydrocarbons, up from four in 2000.

“This tells you that the investment environment is attractive to local and international players despite the fact that Oman’s geology is complex and challenging,” Dr. Al Anboori remarked.

In addition to investments in Exploration & Production (E&P) activities, Oman’s oilfield sector also abounds with investment opportunities linked to, among other areas, the need for specialist technology solutions to address major challenges saddling the industry.

Notable is the example of ‘produced water’ – oil-contaminated water generated as a byproduct of oil production. For nearly every barrel of oil that is produced in the Sultanate, around nine barrels of ‘produced water’ is yielded, requiring significant investment and energy to safely and sustainably dispose of this resource.

“Investment required in water shutoffs and water disposal,” said Dr Al Anboori. “Operators such as Petroleum Development Oman (PDO) exert a lot of effort in managing these volumes through technologies like wetlands, and so on. The industry is also trying to eliminate shallow disposal of this resource to prevent contamination of groundwater.”

[2 December 2018]
Oman’s first wind turbine installed in Dhofar

First of 13 turbines marks major milestone in construction of GCC region’s first commercial-scale wind farm project, which will supply electricity to 16,000 homes

Masdar, the Abu Dhabi Future Energy Company, announced the installation of the first of 13 turbines at the 50 megawatt (MW) Dhofar Wind Farm. Located in Dhofar Governorate, the project is fully financed by Abu Dhabi Fund for Development (ADFD).

The project follows an agreement signed in 2014 between Masdar and the Rural Areas Electricity Company of Oman (TANWEER). A Masdar-led consortium including GE and Spain’s TSK is developing the Gulf region’s first large-scale commercial wind farm.

GE is providing the project’s 3.8 MW wind turbines, while TSK is responsible for the rest of the wind farm’s infrastructure, which includes medium- and high-voltage substations and 13-kilometres of overhead transmission lines. Masdar is the project developer and implementation lead.

Eng. Saleh bin Nasser al Rumhi, Chief Executive Officer of TANWEER, said: “We are looking forward to the implementation of this initiative, which will be the first large-scale renewables project in Oman. Our team has worked closely with all the participants to bring this technology to the Sultanate and to ensure knowledge transfer in the country. TANWEER’s mandate is to supply electricity to large areas of Oman, and this project fits well with our expertise and ambition. The company is licensed to generate, transmit, distribute, and supply electricity in the concession areas. Our customers include cities, villages, and local communities scattered across almost 75 per cent of the land area of the Sultanate. We are also looking to implement other renewable technologies, including solar PV, to augment our existing generation plants across 11 site locations.” The Dhofar Wind Farm is expected to become operational by the third quarter of 2019. It will supply seven per cent of the Dhofar governorate’s electricity demand, or enough clean energy to power an estimated 16,000 homes, while offsetting an estimated 110,000 tonnes of carbon dioxide emissions annually.

Once complete, the wind farm will be handed over to TANWEER, which will then operate the plant and supply the generated electricity to the local Dhofar power grid through an overhead power line managed by the Oman Electricity Transmission Company (OETC).

The Oman Power and Water Procurement Company (OPWP) will offtake the generated electricity from TANWEER in line with a power purchase agreement (PPA) signed on September 12, 2017.

Mohamed Jameel al Ramahi, Chief Executive Officer of Masdar, said: “As a global leader in wind energy technology, we are proud to support the Sultanate of Oman in the realisation of its renewable energy ambitions, and deeply committed to our partnership with Abu Dhabi Fund for Development and the world-class consortium delivering this milestone wind energy project on schedule and to the highest operational standard.” All 13 turbines are scheduled to be installed by March.

[26 December 2018]
Duqm Refinery announced its project’s financial close at a gala dinner held at the Intercontinental Hotel, Muscat. Achieving a multi-source project financing for the Duqm Refinery project was a major milestone for the project.

Speaking on the occasion, the President of Kuwait Petroleum International and Chairman of Duqm Refinery, Mr. Nabil Bourisli, said: This achievement reflects the strength and stability of the Omani and Kuwaiti economies. It also reflects the trust and confidence of local, regional and international financial institutions in our economic ties that are deeply rooted in history. He added, “Our Vision is aiming at maximizing the value of our natural resources and driving the two countries toward expanding their economic potential that leads to balanced economic growth.”

Eng. Hilal Al Kharusi, Vice Chairman of Board of Directors of Duqm Re-
finery commented on the occasion: “this is indeed a very important milestone for the project. It reflects the trust that financial institutions have placed in the project which with no doubt will be one of the key economic drivers for SEZAD. He further added, “Setting up Duqm Refinery and Petrochemical Industries Company is an important milestone for petrochemical industries and key to establishing new downstream industries and the creation of job opportunities.”

Eng. Khalid Al Mushaileh, vice president of Kuwait Petroleum International stated “Kuwaiti banks were effectively involved in financing the project achieving 32% of the total loan amount. This is driven by the importance of the project as well as the strategic partnership between the two brotherly countries. He added, “this project is in line with Kuwait Petroleum Corporation 2040 strategy and it is at the same time a great opportunity to involve skilled Kuwaiti workforce to be part of these external investments”.

“The US$ 4.6 Billion multi-sourced financing signed for the Project is not only the largest project financing in the Sultanate of Oman, it also includes the largest sharia compliant facility awarded to a green field project in the country provided by a consortium of Islamic financing institutions,” said Mubarak Al Naamany, Chief Financial Officer of Duqm Refinery.

He further stated: “Facilities have been provided by 29 reputed financial institutions from 13 countries and guarantees from 3 major ECAs. He concluded that achieving a Debt to Equity ratio of 55% with uncovered facilities of 70% of total debt, is a testament of confidence placed by international, regional, and local lenders on the Sultanate of Oman, the shareholders, and the project”.

The US$ 4.6 Billion senior debt facilities comprise of seven agreements that includes (i) a US$ 1.43 bn International Commercial Facility, (ii) a US$ 490 million Onshore Commercial Facility, (iii) a US$ 890 million Islamic Facility, (iv) a US$ 700 million UKEF Covered Facility, (v) a US$ 500 million CESCE Covered Facility, (vi) a US$ 600 million K-EXIM Covered and K-EXIM Direct Facilities. Regional banks have played a big role in this deal with funding from Kuwaiti and Omani banks representing 43% of total debt.


A number of specialist advisers were engaged to support the financing of the Project which include Crédit Agricole Corporate and Investment Bank as Financial Adviser to Duqm Refinery, Allen & Overy LLP as International Legal Counsel to Duqm Refinery, and Latham & Watkins LLP as International Legal Counsel to Lenders.

The Refinery project comprises the development, construction, ownership and operation of the refinery, on-site utilities, infrastructure and storage together with offsite facilities including crude tank stor-

THIS ACHIEVEMENT REFLECTS THE STRENGTH AND STABILITY OF THE OMANI AND KUWAITI ECONOMIES. IT ALSO REFLECTS THE TRUST AND CONFIDENCE OF LOCAL, REGIONAL AND INTERNATIONAL FINANCIAL INSTITUTIONS IN OUR ECONOMIC TIES THAT ARE DEEPLY ROOTED IN HISTORY.” MR. NABIL BOURISLI
Petroleum Development Oman (PDO) celebrated a new Guinness World Record for installing the highest number of solar reflective lights ever on a road.

The Company has fitted 43,550 sun-powered ‘cat’s eye’ units on a 650 kilometre stretch of highway in the south of its concession area from Haima to Salalah via Nimr, Marmul, Harweel and Thumrait. The LED (light-emitting diode) reflective studs are charged by the sun during the day and automatically turn on when the light is low, at night or in a harsh weather environment, such as fog, rain or sandstorms. Since the installation of the reflectors was completed in February, there has not been a single fatality or accident at night or in inclement conditions on the route. PDO Managing Director Raoul Restucci was presented with a commemorative shield from Guinness Book of World Records representative Ahmed Gamaledin Ahmed Gabr at a special ceremony at the Crowne Plaza Muscat. The Company’s new record beats the previous one set in Japan over a 220 kilometre distance.

Mr. Restucci said: “PDO is strongly committed to road safety and we have launched a range of different initiatives to reduce hazards and improve driving standards and vehicle maintenance.

“These solar reflective lights represent one such initiative but they have significantly helped to avoid accidents due to poor visibility and make motoring safer for the many thousands of people – PDO staff, contractors and members of the general public – who use the route. This project combines two of our key priorities – road safety and renewable energy – and I am delighted that our efforts have been recognised as a global record.”

The installation work took just over four months to complete and was assigned to Omani-Dutch company Fijen TMLE BV LLC. The firm is based at Ghubra North in Muscat and has more than 10 years of international experience in road solar lighting.

PDO has also fitted more solar cat’s eyes over a further 444 kilometre distance from Naith through Fahud, Lekhwair and Ibrī in the north of its concession area, and is aiming to cover a further 494 kilometres on three stretches of road from Adam to Thumrait (a dual carriageway), Natih to Ibrī and Ghaba to Saih Rawl via Qarn Alam by March.

At the same ceremony, PDO’s Road Safety team celebrated a company record achievement of 750 million kilometres driven without a work-related fatal road accident. The distance is the equivalent of making seven return journeys to Mars.

Mr. Restucci said: “This is a result of a committed and comprehensive focus on road safety based on compliance, training, education, technology and ongoing communication with all our people to ensure they know the critical importance of driving safely and maintaining their vehicles properly.

[19 December 2018]
Baker Hughes, a GE company, joined forces with the Petroleum Development Oman (PDO) to open its first artificial lift systems assembly and repair facility in Oman to support the PDO’s operations and other customers in the region, with the aim of optimising production, saving costs and enhancing oil production.

Complementing PDO’s ‘In-Country Value’ strategy, the centre, located in Nizwa, Oman, is one of the largest investments by BHGE in the country. It is specialised in the assembly and repair of electric submersible pumps (ESPs) components, including motors, seals, intakes, gas separators and pumps, and has competencies for testing all types and ranges of pumps and motors to ensure quality control.

Established in an area of over 8,500 square metres, the complex has over 1,670 square metres allocated for workshops. Underlining BHGE’s commitment to promote localisation, the facility achieves near 100 percent Omanisation. A team of nine Omani Assembly Maintenance Operations technicians, who were trained at BHGE’s centre in Jebel Ali in the UAE, are driving the operations of the facility.

In addition to supporting existing projects of BHGE with PDO, the new facility can also support other customers in the country and wider region, underscoring the added value it brings to the oil and gas supply chain in Oman.

Abdul-Amir Abdul-Hussein Al Ajmi, External Affairs and Value Creation Director at PDO, said: “The facility further reinforces our localisation efforts to support our In-Country Value strategy which aims to create more job, training and learning opportunities for Omanis and enhance domestic supply chains. The facility will provide efficiencies to PDO as well as minimise any delays in equipment delivery and installation, while optimising the full ESP value chain. We are pleased to work with BHGE as a partner with proven expertise in country.”

The opening of the facility, under the auspices of HE Salim bin Nasser Al Aufi, Undersecretary of the Ministry of Oil and Gas, marks the completion of another of the opportunities outlined in the Ministry of Oil and Gas ICV strategic blueprint which was unveiled in 2013. PDO is leading on 38 out of the 53 originally unveiled to Oman’s oil and gas industry.

Ayman Khattab, CEO South Gulf and East Africa at BHGE, said: “The inauguration of our first artificial lift assembling and repair facility in Oman reflects our long-term commitment to the country and to strengthen our local footprint through in-country investments. With our artificial lift services recording strong market share in the country, the new facility enables us to be closer to our partners and to serve them more efficiently. We are particularly delighted that the facility opens with nearly 100 percent Omanisation, highlighting our commitment to local talent development.”

“In Oman, BHGE is striving to present innovative solutions backed by efficient service standards, which help enhance production and optimise costs. This is underlined by BHGE’s strong enhanced oil recovery (EOR) technologies and the artificial lift solutions ranging from ESPs to gas lift systems and others already deployed in country. The facility is capable of carrying out full investigations on pulled pumps and redesign to enhance and increase their run life.”

[11 December 2018]
Oman awards Blocks 51, 65 to Oxy, OOCEP

Pacts commits Oxy Oman, OOCEP to invest a total of $65 million in exploring for hydrocarbons in the two onshore blocks

Occidental of Oman, the local subsidiary of Occidental Petroleum (Oxy), signed Exploration and Production Sharing Agreements (EPSA) for two new hydrocarbon blocks, effectively ramping up its expanding portfolio of upstream investments in the Sultanate.

Under the EPSA pacts, Oxy Oman acquires a 100 per cent interest in Block 51, covering a 10,133 sq km area in the northeast of the country. Separately, a joint venture of Oxy Oman and Oman Oil Company Exploration & Production (OOCEP) has been awarded Block 65, a small 1230 sq km concession located in the interior of Oman.

Dr Mohammed bin Hamed al Rumhy, Minister of Oil & Gas, signed the agreements on behalf of the Omani government. Oxy was represented by its Executive Vice President, while OOCEP – the upstream arm of Oman Oil Company – was represented by its Executive Managing Director, John Malcolm.

Giving details about the two pacts, Dr Salman bin Mohammed al Shidi, Director General of Management of Petroleum Investments at the Ministry, said the two blocks will attract combined investment commitments of around $65 million over the next six years. It includes a commitment of $38 million in the first phase towards seismic analysis of existing seismic data, the shooting of additional 3D seismic, and the drilling of exploratory wells.

“Hopefully, with the additional seismic acquisition and geological studies, they will be able to find more prospects that will allow them to drill a total number of 14 wells – five in Block 51 and nine in Block 65 – over the two phases,” he said.

Significantly, the two blocks are prospective for both conventional and unconventional resources. Both were among acreage offered for investment as part of the 2017 Oman Licensing Bid Round. According to a backgrounder circulated by the Ministry on Block 51, a total of 19 wells were previously drilled by the block’s many owners over the past decades, revealing evidence of gas and condensate in the Natih formation and gas in the Gharif formation. In addition to the conventional oil and gas play in the block, there is also a tight gas play in the Natih E formation, which has been recognised as a prime target across northern Oman.

As part of its commitments towards Block 51, Oxy Oman will undertake geological studies to analyse existing seismic data and drill two exploratory wells as part of an estimated $6 million investment in the first phase. In the second phase, the company has committed a further $14 million to, among other things, acquire 400 sq kilometres of 3D seismic, and drill three additional oil and gas wells.

Block 65 – owned by the joint venture of Oxy Oman (73 per cent) and OOCEP (27 per cent) – will be operated by the former, although the agreement includes a provision for the latter to have role as joint operator as well.

OOCEP’s participation in the JV, according to Dr Shidi, follows a roughly two-year study of Block 65 during which the state-owned E&P firm also committed to drill a well targeting unconventional resources.

“OOCEP was successful in carrying out the study programme, at the end of which, the block became open for us to market, and indeed OOCEP in partnership with Oxy, was awarded the block,” he added.

[16 December 2018]
International investment sought for Habhab ultra-heavy oilfield

Block 71’s Habhab field is home to a multibillion barrel (STOIIP) ultra-heavy oil reservoir

Oman’s Ministry of Oil & Gas says it will open up its ultra-heavy oilfield at Habhab in south Oman to investment and development by international players with the technological and financial wherewithal to unlock the field’s promising, but technically challenging, resources.

Habhab, a large, heavy and very viscous oil accumulation that currently forms part of the Block 6 concession of Petroleum Development Oman (PDO), is proposed to be carved out and offered up to international energy firms with the knowhow to harness the reservoir’s almost bitumen-like hydrocarbons.

According to Dr Salman bin Mohammed al Shidi, Director General of Management of Petroleum Investments at the Ministry, Habhab will be “packaged separately” to companies that have the technical capabilities to handle heavy oil resources. “We will be open to companies that have the technical might and the investment, firstly to study the reservoir and then to put together a proposal to unlock its heavy oil,” the official said.

Earlier this month, the Ministry announced that Habhab would be marketed in conjunction with the Oman Licensing Bid Round 2019 due to be launched in the first quarter of next year. In all, six oil and gas blocks – newly labeled as Blocks 70, 73, 74, 75, 76 and 58 and distributed across the Sultanate – will be offered under Exploration & Production Sharing Agreements (EPSA) as part of the bid round.

In addition, two other blocks are also open for investment based on ‘One-to-One’ negotiations with qualified international parties with the technological wherewithal and resources required to unlock the challenging hydrocarbon potential of these concessions. They include Block 71, containing the Habhab field, home to a multibillion barrel (STOIIP) ultra-heavy oil reservoir. The other concession is Block 43B, which has remained over from the 2017 Licensing Round. Significantly, the move to market the Habhab internationally follows on from PDO’s own efforts to secure an international partner to invest in the development of the ultra-heavy oilfield. Habhab’s hydrocarbon content is officially categorised at bitumen, which presents formidable technical challenges that test the boundaries of formidable technical challenges that test the boundaries of Enhanced Oil Recovery (EOR) technologies currently deployed in the Sultanate, says PDO.

Originally discovered in 1982, Habhab has an estimated 2.4 billion barrels of ultra-heavy crude. Steam and chemical injection pilots launched by PDO did yield encouraging results, but evidently not to the point where it could go it alone in harnessing the field’s potential.

According to PDO, the bitumen is accumulated in a thinly laminated sandstone reservoir with an oil column thickness of approximately 100 metres with the reservoir depth starting at 1,550 metres.

[18 December 2018]
Shell Oman Marketing Company SAOG has signed an agreement with Port of Duqm Company SAOC (PDC) to develop fuel bunkering facilities and services. The agreement was signed by Dr. Mohammed Mahmood Al Balushi, CEO of Shell Oman, and Mr. Reggy Vermeulen, CEO of PDC. The agreement establishes bunkering terminal to provide different grades of quality fuels and lubricants as well as other ancillary facilities to marine vessels calling at Port of Duqm.

Dr. Mohammed Mahmood Al Balushi stated: “The development of marine business at the Port of Duqm will reinforce the strategic partnership between Shell Oman Marketing and Port of Duqm Company. Due to the strategic and geopolitical location of the port on the international shipping lines, it is anticipated in the coming years to transform into a regional hub attracting large investments and projects while driving the diversification of the Sultanate’s economy and enhancing its global competitiveness. We are committed to play a crucial role in the attainment of this vision by delivering global fuel technology and operational excellence to local and international marine customers in Duqm as part of Shell’s global network.”

On this occasion, Mr. Reggy Vermeulen, CEO of Port of Duqm, added: “This new agreement with Shell Oman underlines the clear ambition of Port of Duqm to become a future bunker hub serving the entire region. With new global bunker regulations coming into effect as from 2020, Port of Duqm plans to take full advantage of its prime location as well as the availability of the right fuel specs and offer prime bunker services accordingly.”

Shell has a long-established reputation as a reliable partner of choice in the marine industry. Backed by decades of experience, dedicated global Shell Marine experts work to offer the highest value for customers. On a global scale, Shell operates in over 130 ports around the globe providing customers with wide range of marine products and services. This expertise combined with state-of-the-art global technology and innovative eco-friendly practices is expected to result in the successful delivery of fuel solutions to local and international marine liners in Duqm.

[18 December 2018]
China remained the largest buyer of Omani crude in December 2018, although Japan and India reported an uptick in imports, the Ministry of Oil and Gas said in its monthly report. China accounted for 87.23 per cent of Oman’s total exports of 20.022 million barrels in December 2018, registering a decline of 4.41 per cent over the previous month. Japan and India, on the other hand, boosted their respective shares to 7.76 per cent and 5 per cent in December.

Oman’s production of crude oil and condensate in December 2018 topped 30.757 million barrels, representing a daily average output of 992,192 barrels for the month. Of this total, 20.022 million barrels were exported at the average daily rate of 645,890 barrels.

Crude oil prices witnessed a further decline during December 2018 futures trading compared with November 2018 for the major crude oil benchmarks around the world. The average price for West Texas Intermediate crude oil at the New York Mercantile Exchange (NYMEX) averaged $49.37 per barrel, declining by $7.44 per barrel over the previous trading’s month average. North Sea Brent mix ended at $57.88 per barrel on the Intercontinental Exchange (ICE) in London, plummeting $8.07 per barrel in comparison with November 2018 figures.

Likewise, the average price of Oman Crude Oil Future Contracts at the Dubai Mercantile Exchange (DME) witnessed a 13.5 per cent decline compared to the previous month. The official selling price for Oman Crude Oil during December 2018, for the delivery month of February 2019, settled at $57.33 per barrel, down $8.95 per barrel compared with November trading prices. The trading price ranged between $50.01 per barrel and $61.73 per barrel.

There were several factors that deepened the downtrend in oil prices through December 2018 and badly affected trading settlements, the Ministry said. To start with, the market negatively overreacted after US President Donald Trump appealed OPEC not to reduce the production. In addition, the deterioration of global stock markets and the weakening of the dollar exchange rate, which put pressure on the dollar-denominated oil prices, contributed in global crude prices waning as well. Worse, the decline was also fueled by market fears that OPEC / non-OPEC agreement to cut out by the beginning of 2019 for an initial period of six months, would not be sufficient to reduce the supply glut, the report added.

[16 January 2019]
Musandam Oil and Gas Company takes over operation of Block 8

New operator charts 5-year strategy to boost output from Oman’s only producing offshore license

Musandam Oil and Gas Company (MOGC), a newly established Omani company that has taken over operation of Block 8 off Oman’s Musandam Peninsula, plans to chalk out a five-year strategy to ramp up production from this strategically located offshore concession, which is home to the Sultanate’s only producing offshore fields.

Associated gas, crude and condensate from the West Bukha and Bukha fields has been declining in recent years – a downtrend that MOGC, a wholly owned subsidiary of Oman Oil Company Exploration & Production (OOCEP), wants to arrest and reverse as the new operator of the Block.

Earlier, Norwegian energy firm DNO AS (along with its 50 per cent equity partner LG International) handed over operatorship of Block 8 upon the expiry of a 30-year Exploration and Production Sharing Agreement (EPSA) covering the ownership and operation of the concession.

At a formal handover ceremony, high-level officials of OOCEP and its subsidiary MOGC, made clear their intent to revitalise the Block, which serves as a source of natural gas for Musandam’s first Independent Power Project (IPP) operating at Tibat. Crude oil and condensates from Block 8 are also exported via an offshore terminal to international markets.

In comments to journalists, MOGC’s newly appointed Acting Managing Director Mahmoud Abdullah al Hashmi (pictured), said: “Our strategy for 2019 is to undertake a full study on the fields, see what is there, and then put together a 5-year strategy for the development of the Block. So in 2019 it will mainly be a study that looks for quick wins to maintain production, and from 2020, we will start working with the Ministry of Oil & Gas on a strategy to boost production.”

Output from Block 8 has been on the down-trend over the past several years from 15,678 barrels of oil equivalent per day (boepd) in 2014 to 8,193 boepd in 2015, slumping further to 5,325 boepd in 2016. In 2017, volumes dipped to 4,484 boepd, roughly split even between oil and gas. Current production averages 15 million standard cubic feet per day of gas and 1,500 barrels per day (bpd) of liquids, according to Al Hashmi.

With the acquisition of Block 8 through its Special Purpose Vehicle MOGC, Oman Oil Company E&P (OOCEP) makes its debut as the operator of an offshore concession in the Sultanate. The company, which is the upstream arm of Oman Oil Company (OOC), currently operates Blocks 60 and 48 onshore Oman. It also represents the parent company’s investments in a substantial portfolio of local and international licenses.

Earlier, in brief comments during the handover ceremony, HE Salim bin Nasser al Aufi, Under-Secretary of the Ministry of Oil & Gas, congratulated all of the parties involved in ensuring the smooth transition from incumbent operator DNO to new Musandam Oil & Gas Company (MOGC). He also underlined the need for viable solutions to revive Block 8’s flagging output.

“We do have a challenge in the Block and need to how we can grow production,” said HE Al Aufi. “The team has been already working on this issue and the ideas seen are encouraging. Some ideas build on the previous ideas proposed by DNO, while the others are new. Of course, we need to work them out and make sure we support them financially, technically, and so on. The challenge for us is to make sure we continue this field. It is declining, but we need to revive it. I think the team will do that exercise, and it looks like it will be in good hands.”

[5 January 2019]
Eni ramps up footprint in Oman’s upstream sector

Italian energy giant Eni and Oman Oil Company Exploration and Production (OOCEP) have entered into an Exploration and Production Sharing Agreement (EPSA) for Block 47 with the Government of the Sultanate of Oman.

The Block was awarded to Eni and OOCEP following their joint bid as part of the 2017 Oman Licensing Round. Eni is the operator of the Block and hold a 90 per cent participating interest with OOCEP owning the remaining 10 per cent participating interest. Exploration operations in the 8524 sq km Block, located onshore in Al Dakhiliyah Governorate, are expected to commence in 2019.

Eni has also signed with the Ministry of Oil & Gas and with BP a Heads of Agreement (HoA) defining the principles for the acquisition of the Exploration and Production rights of Block 77. The 3,100 sq km onshore block is located 30 km east of the BP-operated Block 61 which contains the already-producing Khazzan gas project as well as the Ghazeer project, currently under development.

Under the Agreement, Eni and BP hold 50 per cent each with Eni acting as operator during the exploration phase. Eni and BP will now enter discussions with the Ministry to finalise details of the EPSA.

Bernard Looney, BP Chief Executive Upstream said: “This would represent a further deepening of BP’s important position in Oman, building on our successful delivery of the major Khazzan project in 2017 and its second phase of development that is currently under construction. We look forward to continuing to explore and efficiently develop the country’s resources, working in close partnership with Eni and Oman to underpin our commitment to delivering long-term gas production for Oman.”

With the signing of the two agreements, Eni is set to dramatically ramp up its presence in the Sultanate. Eni is also the operator of Block 52, offshore Oman’s southern and southeastern seaboard, with OOCEP as its partner.

“The signature of Block 47 EPSA and Block 77 HoA [heads of agreement], represents a further step in Eni’s strategy to reinforce its presence in the Sultanate of Oman and strengthen the collaboration with OOCEP, which is Eni’s partner also in Block 52,” the Italian energy firm said in a statement.

[14 January 2019]
Shaping the Future of Oman’s Oil and Gas Industry’

A distinguished roster of more than 50 experts shared their perspectives on an array of topics, ranging from ‘Investment Strategies and the Way Forward’ and ‘Transforming Oman’s Oil and Gas—Emerging Technologies’ to ‘Digital and Marginal Oilfields’ and ‘Transforming HR in Oman’s Oil and Gas Industry’
OPAL Oil & Gas Conference – the Society’s signature forum on industry trends and developments – was held at the Oman Convention and Exhibition Centre during 2 – 4 December 2018, attracting over 300 local, regional and international decades for three days of insightful presentations and deliberations.

The annual event, organized by OPAL with the support of leading event management firm Omanexpo, focused on the theme, ‘Shaping the Future of Oman’s Oil and Gas Industry’. The theme underscored the continuing efforts of the Ministry of Oil and Gas in attracting investments in hydrocarbon exploration and production, improving efficiency and minimising capital requirements, and embracing emerging technologies unleashed by digital transformation and the 4th Industrial Revolution.

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In opening remarks, HE Salim bin Nasser al Aufi, Under-Secretary of the Ministry of Oil and Gas, said the event served as an excellent platform for oil and gas professionals to share their knowledge, build their business prospects and create partnerships through networking and identify solutions and shape strategies with industry experts.

“The programme agenda is definitely rich in content featuring topics that are extremely exciting, particularly in the areas of human capital development, empowering women and digitalisation – areas in which we continue to face challenges on a day to day basis. It is good to take stock and understand what is happening in different companies, so we can learn from each other,” the Under-Secretary said.

“I encourage you to take this opportunity to network, share best practices, and try to get the most out of the rich programme content,” HE Al Aufi further added. “There are a lot of challenges ahead of us, particularly in the area of digitalisation and the 4th Industrial Revolution, which will come to pass whether we are part of it or not. And it’s better to be part of it than be left out! I’m glad to see that a lot of companies are putting together their strategies in preparation for these technologies. It’s good to understand what is anticipated from these emerging technologies to ensure that the strategies are all aligned to the extent possible.”

HE Al Aufi underscored in particular the need for the industry to gauge the likely impacts of the 4th Industrial Revolution on the future job market in the Oil & Gas sector. “There is already a lot of discussion on the kind of jobs that will be created over the next 5 – 10 years, what jobs will disappear from the radar, and what implications that will have on the people that are currently doing these jobs, and also for those in the pipeline expecting to do certain jobs, only to discover that they no longer exist,” he stressed.

In concluding, he thanked the OPAL Executive Team led by Mr. Musallam Al Mandhri, CEO, and the sponsors, for putting together an exciting programme agenda that, he hoped, would result in some “action plans” for implementation in 2019.
Earlier, in welcome remarks, Mr Musallam Al Mandhri said the second edition builds on the “tremendous response and success of the inaugural edition” held in 2017. “This year, we have 52 speakers lined up, with over 300 local and international delegates, providing a platform for engaging discussions on upcoming trends, challenges and opportunities in our industry, in effect, strengthening Oman’s position as a serious and important player that contributes to the global oil and gas industry,” he said.

The CEO noted that OPAL’s decision to merge the Best Practice Awards event with the Oil & Gas Conference provided an opportunity for delegates to obtain an in-depth understanding of the 17 Best Practice entries competing for the coveted accolades. Previous editions of the Best Practice Awards were organised as standalone events.

Noteworthy presentations made during the three-day conference focused on topics such as Deep Water Exploration, Flare Gas Reduction, Digital Transformation, Sustainable Pipeline Construction, Marginal Oilfields Development, Women in Oil & Gas, HSE, and Local Content Development. The highpoint was a panel discussion featuring the CEOs of Oman’s leading operators.

The OPAL Oil & Gas Conference was supported by Petroleum Development Oman (PDO) and Oman Oil Exploration and Production (OOCEP), with sponsorship support also extended by Occidental Oman (Oxy), Ensign, Sustainable Pipeline Systems, Oman LNG, Huawei, Vanguard Engineering and Oilfield Services and CCC.

New guidelines for incident-reporting in Oil & Gas sector
Seeking to streamline and strengthen industry-wide reporting on occupational
health, safety and environmental-related mishaps in the Oil & Gas sector, OPAL has rolled out new guidelines in this regard for mandatory implementation by operators and key players in this key economic sector.

The Incident Sharing Standard, which was first unveiled in August this year, seeks to streamline and harmonise procedures for reporting on around 17 different types of safety-related incidents occurring on the premises, or at the operations, of operators, according to Mr. Sulaiman al Sulaimi, HSE Team Leader at Oman Oil Company for Exploration & Production (OOCEP) – the upstream arm of Oman Oil Company (OOC).

Mr. Al Sulaimi said the initiative was driven by a need to create common guidelines for collating data on mishaps occurring in the industry and to share this information in the hope it will help promote awareness and support preventative efforts as well. “This Standard is one the major milestones achieved by the Oil & Gas sector this year,” said Al Sulaimi. “It has been endorsed by the top managements of at least 17 operators and approved by the Ministry of Oil & Gas as well. This is a demonstration of their commitment to this new Standard.”

He said a special Incident Local Review Committee will be set up under OPAL’s auspices to review the data received on a monthly basis from the operators. This information will be fine-tuned and submitted to the Ministry of Oil & Gas, which has made incident-reporting mandatory under its revised Oil & Gas regulations due to come into force soon.

Furthermore, at least 53 types of mishaps, hazards, incidents and occupational diseases have been clearly defined and incorporated in the Standard. Occupational health diseases, for example, have been suitably defined and classified. Other types of safety concerns that fall under the purview of the Standard include Lost Time Incidents (LTIs), process safety, environmental impacts, and some elements of security as well.

**Mandatory drug and alcohol testing mandatory for employees**

Employees of three strategic economic sectors in the Sultanate – Oil & Gas, Ports and Airports, and Electricity and Water – will be required to undergo mandatory testing for drug and alcohol abuse under new regulations introduced by the Ministry of Manpower.

The new measure, designed to strengthen workplace safety in organisations at the heart of Oman’s critical infrastructure, is set out in Ministerial Decision 133/2018 issued by the Minister of Manpower. The Decision amends certain provisions related to Occupational Health and Safety enshrined in the Oman Labour Law promulgated via Royal Decree 286/2008.

Article 24 of the Ministerial Decision states thus: The employer in the workplace facilities must, in each of the following sectors – Oil & Gas, Ports and Airports, and Electricity and Water – conduct regular and random medical tests of their employees, to ensure that they do not abuse any drugs, (intoxicating) substances or alcohol. And the employer must take action
to ensure that the workplace facilities are free from these substances.
Seeking to ensure compliance by the Oil & Gas sector with the Ministerial Decision, OPAL the main umbrella grouping of oilfield operators, contractors, vendors and service providers, is preparing to introduce guidelines that will require its members to put in place policies and procedures to enforce this new regulation.
The ‘Illegal Drugs and Alcohol Standard’, currently being finalized by OPAL, has already secured the support of Oil & Gas operators, and will be formally introduced shortly, according to Mr. Hassan al Ajmi, Mukhaizna HSE Manager at Occidental Oman. Mr. Al Ajmi, who played a key role in the drafting of the Standard, said that employers have a responsibility under Omani legislation to “provide a safe working environment for all employees, contractors, visitors and local communities, as well as the security of assets and the environment from all dangers and problems presented by people under the influence of drugs, alcohol and other forms of intoxicating substances”.
He said the new OPAL standard provides “minimum requirements and guidelines for Oil & Gas companies to develop and implement programmes to prevent incidents that may result from drug or alcohol use / abuse or possession / use of prohibited items.”
Substance abuse, he warned, can have potentially severe impacts for business. It can lower productivity, increase staff turnover and absenteeism, and result in loss of reputation and revenue for clients. Around 20 – 25 per cent of health and safety-related breaches involve people under the influence of drugs or alcohol, he stated.
Under the new regulations, employers may conduct unannounced searches for unauthorized drugs or alcohol on company properties. The management may determine when a search or screening process may be carried out in order to provide a safe environment and also protect the company’s assets, according to Al Ajmi.
Importantly, any refusal by an employee, contracted worker or visitor to cooperate in a search is deemed a violation of the company’s Drug and Alcohol Policy and represents grounds for disciplinary action, he said.
“Additionally, where possible, searches must be conducted in the presence of the individual concerned, with one or more witnesses present and with due regard to cultural considerations.”
OPAL’s Illegal Drugs and Alcohol Standard requires companies to have policies in place that espouse a duty of care to employees while seeking to drive illegal drugs and alcohol out of the workplace. It advocates zero tolerance for the use, possession, distribution, dispensing, sale, purchase or transfer of prohibited or controlled substances. Employees reporting to work or working under the influence are liable to disciplinary action, it warns.
Driving value creation through best practice sharing

The OPAL Best Practice 2018 Awards - merged for the first time with the OPAL Oil & Gas Forum - proved to be as popular as the standalone version of the event
The latest edition of the annual show – which recognises excellence in a number of key areas of business service and innovation – was clubbed together with the finale of the OPAL Oil & Gas Forum on 4th December 2018. Held at the Oman Convention and Exhibition Centre, the contenders for the coveted awards had the opportunity to showcase their entries to the scores of participants in the 3-day forum, as well as to a select panel of judges.

HE Salim Al Aufi, Under-Secretary of the Ministry of Oil & Gas, was the Chief Guest at the Best Practice Awards ceremony. Also present were the CEOs of Oman’s Oil & Gas operators, as well as industry executives.

In brief remarks, Dr Amer Al Rawas, Chairman of OPAL’s Board of Directors, welcome the incorporation of the Best Practice Awards into the OPAL Oil & Gas Forum. The decision, he said, afforded all of the nominees the opportunity to share their Best Practice initiatives and projects with a far wider audience. Jury member Mr. Khalid Ansari, speaking on behalf of his peers, said the high quality and merit-rich features of the entries made the evaluation process daunting for the panel.

PDO was the big winner of the 2018 accolades, scooping three of the five Best Practice Awards given away that evening.

Entries for Best Practice Awards were invited in the following four categories (with the winners listed alongside):

1. **Human Capital Development**  
   Winner: BizPro Awards (NTI)

2. **Technical and Operational Excellence**  
   Winner: Utilising GPP Process for Oil Processing (OOCEP)

3(a). **Health and Safety**  
   Winner: IHTIMAM ICARE (PDO)

3(b). **Environmental Best Practice**  
   Winner: 6MW Solar Power Project (PDO)

4. **Small Business Development**  
   Winner: Banat Oman (PDO)

List of nominees:

1. Petroleum Development Oman (PDO)  
2. National Training Institute LLC  
3. ORPIC  
4. Occidental of Oman  
5. Tebodin & Partner LLC  
6. Oman LNG L.L.C.  
7. Consolidated Contractors Company LLC  
8. Takatuf Petrofac Oman  
9. Oman Oil Exploration & Production LLC (OOCEP)  
10. Hydrocarbon Finder  
11. Galfar Engineering & Contracting SAOG  
12. Tradebe  
13. Badr Enhanced Oil Recovery LLC  
14. Sarooj Construction Company LLC
Snapshot of the projects / entries submitted by the companies:

1. Human Capital Development

**Orpic**

**Project Title: Leadership Development Program**

**Description:** The project witnessed its beginnings in May 2016 and its vision was to create a pool of highly capable leaders who can develop people and drive business goals. Furthermore, it aimed to build an organization’s bench strength through management and leadership training. The main aim is to develop leadership competencies for high potentials, team leaders and managers. The process starts with a clear and defined leadership development framework, which identifies the target group and the required competencies for each group. The programme has numerous impacts, such as; increase productivity, improve people retention, employee growth and higher employee engagement.

**Petroleum Development Oman (PDO)**

**Project title: Comprehensive Plan to Focus on D&I – Diversity and Inclusion**

**Description:** PDO has established itself as a leader and beacon for Diversity and Inclusion (D&I) in the country and the region as well. This has been achieved by developing a comprehensive plan to focus on D&I as a business imperative and to fully embed it across the organization. The company is committed to celebrating diversity in all its aspects and combining this with an inclusive workplace where individuals are treated equally without bias, favouritism or discrimination, and where processes are merit based to provide opportunities based on capability and skills. PDO has a special committee dedicated to D&I that is composed of a D&I officer, staff committees and Front Line Support (FLS) volunteers across the company to support employees and to help address issues. As part of the comprehensive plan, 2018 was a turning point since PDO has rolled out mandatory D&I training for all staff to increase collective awareness and understanding.

**Petroleum Development Oman (PDO)**

**Project Title: Tamkeen**

**Description:** In line with the rapid global expansion of the logistics industry, the government of Oman has also identified logistics as a key growth area through its Tanfeedh programme. Strong efforts are being exerted throughout the sector in order build expertise, develop skills and capabilities, PDO is at the forefront of this initiative and has been focusing tremendously in order to make tangible value for the sector and the country. In 2015, PDO logistics developed an Omani workforce development programme called ‘Tamkeen’. It is designed to provide the Omani market with trained logistics workforce that is ready to take on real logistics roles from day one. The programme is designed to ensure that candidates are well supported during their assignments and simultaneously tests their abilities to be knowledgeable both in their technical and non-technical skills.

**National Training Institute LLC**

**Project Title: BizPro Awards**

**Description:** In line with the government’s goal of empowering young Omanis, the NTI BizPro Awards was created 11 years ago to encourage talented young Omanis to showcase their ability and passion for excelling in their field of work. The awards recognize the achievements of business professionals and provide a platform to realise their potential to challenge themselves to scale further heights. These business professionals have gone on to proving their mettle as senior executives in banks, telecom companies, and oil and gas entities, as well as entrepreneurs in other sectors. The initiative has created a pool of role models in the form of BizPro Alumni who will drive a positive social change towards excellence in the workplace. As many as 31 business professionals were named winners of the NTI BizPro Award over the years have come together and gave birth to the BizPro Alumni, which then led to the creation of NTI BizPro Academy.
**Tebodin & Partner LLC**

**Project Title:** Combined Comprehensive External on-job Training Programme  
**Description:** Tebodin & Partner is fully committed to meeting the Omanisation requirements set by OPAL and the Ministry of Manpower. To fulfill this, Tebodin developed a combined comprehensive external/on-the-job training programme to strengthen the Omani labour market by empowering Omani designers and engineers in the field of engineering and consultancy. As of October 2018, 20 engineers have been recruited by T&P in consultation with MoMP to provide career development opportunities for the first time in Oman. Training schemes implemented over the years have resulted in many positives, such as: exceeding Omanisation targets, ensuring the existence of a well-trained workforce, and the integration of Omani staff into various activities.

**Consolidated Contractors Company**

**Project Title:** HR Contingent Compensation System  
**Description:** The HR Compensation system is a system that rewards high performing employees with special incentives and bonuses to motivate them to perform better and prepare them to become leaders in the future. The contingent compensation plan is simple, in which the incentive part measures a few factors based on the SMART goals (Specific, Measurable, Ambitious, Realistic, and Time-bound). This means establishing monthly milestone goals, for example, how much actual work was performed against a set target. CCC pays employees contingent incentives as soon as they meet their goals. The incentive covers extra hours and efforts by employees to keep them motivated. The system covers all employees at all levels and it ensures providing financial as well as on-financial rewards, such as training programmes for top level managers, or gifts.

**Oman LNG LLC**

**Project Title:** Graduate Recruitment Programme  
**Description:** Graduate recruitment is an important decision for any organisation given that it is a long-term investment. Due to the annual influx of high number of Omani graduates, creating jobs is a top priority for the Omani government. In line with supporting the government in achieving this goal, Oman LNG created its graduate recruitment programme. In its recent recruitment programme, OLNG has enrolled 67 fresh graduates - 30 fresh graduates and 37 higher diploma holders – in engineering, operations, finance, contract and procurement, IT, governance and compliance, business administration and HR disciplines. This led to reducing the hiring process from 7 to 2 months; moreover, it resulted in a 10% increase in workforce. The main objectives of developing this programme is to support nationalization, attract and develop a top-notch talent pipeline of Omanis to take up leadership roles, and finally to establish Oman LNG as No. 1 employer of choice for Omani graduates from the current position of No. 5.

**Oman Oil Company Exploration & Production**

**Project Title:** Ufuq  
**Description:** One of the main pillars of OOCEP’s CSR initiatives is the training and education aspect, which has a high impact on human capital development. Therefore, OOCEP created an initiative called Ufuq, which is a smart application utilizing 2D and 3D technology that aims to deliver creative edutainment material for a number of subjects (science, geography, Arabic and Islamic history) for Grade 4 students. The application increases student engagement using creative, unique and enjoyable interactive content and interface elements. It can be downloaded from both the app store and Google Play, both in English and Arabic. The project also includes transforming the traditional oil and gas textbook to a cutting-edge textbook with 2D, 3D, Augmented Reality and Virtual Reality technologies.

**Takatuf Petrofac Oman**

**Project Title:** TPO  
**Description:** TPO is an exciting centre of technical excellence in Oman that welcomed its first students in May 2018. The centre provides world-class, internationally accredited learning pathways that promote the growth and development of future and existing personnel supporting the energy sector. It works collaboratively with industry to deliver the highest levels of training for young Omanis, providing organisations with highly qualified, competent and job-ready graduates. TPO is a fast track training solution designed to deliver competent oil and gas technicians for the industry. Through a unique combination of immersive, digital and practical training curriculum for young Omanis to develop the necessary skills they need to move quickly to a position of autonomy in their desired fields of employments/career whether plant operation, plant maintenance staff or technical craft skills.
2. **Health, Safety and Environment**

**Consolidated Contractors Company LLC**  
*Project Title: HSE Incentive Programme*  
*Description:* CCC RHOP implemented HSE Incentive Programme to generate a positive safety culture and reinforce safe attitudes of workers by rewarding safe working behaviours and practices. CCC RHOP believes that workers’ commitment is key to successful HSE programme and excellent safety performance in order to complete the project safely and achieve the goal of returning home safe and sound to their families.

**Galfar Engineering and Contracting SAOG**  
*Project Title: HSE Induction Video*  
*Description:* HSE Induction Video implemented as best practice initiative is a propriety animation video produced in three core languages (Arabic, English, and Hindi) to provide a visual understanding of the risks associated with common construction activities to enhance HSE awareness thus enable safe working to achieve good HSE performance. The creation of the animation video on HSE compliance helped in raising employee competence, workmanship and to continue drive better value to the clients. HSE training has traditionally been involving classroom lecture sessions and PowerPoint presentations which are less effective in achieving training objectives. However, videoclips are easily understandable and effective in terms of inviting attention and interaction among the audience.

**Hydrocarbon Finder LLC**  
*Project Title: Lose to Gain*  
*Description:* Lost to Gain is a health programme designed for employees to ensure their wellbeing. It helps build, maintain and strengthen the relationship between co-workers and supervisors and allows employees to feel appreciated and cared about. This in turn has a positive impact on job satisfaction and employee morale. The main objective of the initiative is to raise awareness about healthy lifestyles, and a campaign was run for 3 months to promote this objective. Whereby employees got engaged in a competition to lose Body Mass Index (BMI), this was monitored via a medical consulting form to track the records and identify the winners accordingly. Moreover, healthy lifestyle seminars were conducted by various specialists. Overall, the project supported collaboration with local recreational / fitness facilities, food services, and the community to enhance the company’s image and improve employee well-being, hence, a win-win situation.

**Petroleum Development Oman (PDO)**  
*Project Title: IHTIMAM (ICARE)*  
*Description:* IHTIMAM is PDO’s in-house developed Behaviour Based Safety System. It is a lean and new approach to behavioural science technology. It was developed in response to an increase in incident rates, believed to be caused by unsafe behaviours conducted by employees. It is considered as a customizable system that focuses on the specific risks associated with the worker activity. IHTIMAM does not only stop unsafe work, rather it used to identify unsafe behaviours and their root causes, and proactively problem solve before the unsafe act leads to an incident. To date, over 3500 PDO and contractor employees have been impacted by this project and the team are expecting the number to rise to 6000 by December 2018.

**Petroleum Development Oman (PDO)**  
*Project Title: Flaring ALARP*  
*Description:* Flaring ALARP and Waiver electronic system is a unique system which enables management to make an informed value-led decision whether or not it is economic and justified to flare during non-routine upset scenarios. An electronic web-based flaring waiver and ALARP demonstration tool evaluates each of the flaring scenarios on economic and environmental basis and in turn reduces flaring at locations where it is uneconomical. Additionally, the environmental cost of associated flaring is also visualized in the tool. The output of the waiver form is then used by management to make an informed decision and to provide documented approval for record keeping. Moreover this practice provided a sample monitoring tool for documenting all flaring scenarios which contributes in providing statistical justification towards specific targeted actions to avoid non-routine flaring events.
Petroleum Development Oman (PDO)
Project Title: 6MW Solar Power Project
Description: PDO HQ area consists of various office buildings having a total peak load of 9.5MW on average. PDO conducted the required studies followed by engineering works to embark in building the largest Solar Car Park of 6.1 MWp in Oman. The project was executed through converting the existing conventional carparks to solar shaded carparks and feed the generated electricity to the nearest office buildings. Therefore, curtailing the electricity consumption, Greenhouse Gases (GHG) and Co2 footprint aligning with Oman’s commitment to the Paris Agreement dealing with the mitigation of Greenhouse gas emissions. The project is leading to an annual saving of an estimation of 0.8 to 0.9 million USD (40 baiza per unit) which is the equivalent of 2 free bills when compared to previous years. With regards to saving the environment, the project contributes in reducing 6,600 tonnes of Co2 annually.

Tradebe Services LLC
Project Title: Hazardous Waste Management
Description: The sector of waste management is not developed in the GCC, the market is rudimentary and there are no solutions for waste in the country. Waste is exported to be recycled or treated properly. However, Oman and specifically PDO are taking the lead in the region in treating waste correctly. Over the years, PDO stored its hazardous wastes in accordance with MECA permit conditions. In 2012 a decision was made to go beyond the requirements of storage permits and to begin waste treatment, re-use and recycling. Hence, the Hazardous Waste Management Project was introduced, and the contract was awarded to Tradebe Services LLC. The project aims to minimize environmental risks while complying with both company’s specification for environmental management as well as meeting MECA requirements. The Hazardous Waste Management Project has a direct positive impact on environmental sustainability and compliance thereby enhancing PDO’s 3R object of reduce, re-use and recycle.

3. Technical and Operational Excellence

Badr EOR LLC
Project Title: Trucking Improvements
Description: As part of holding the Amal Thermal Services contract, BadrEOR was responsible for providing a field operations service and fleet of liquid tankers to transport live heavy crude from remote well sites to a pumping station. The fluid is then transferred to the main product flow line in Nimr. In response to a high potential incident involving a subcontractor tanker roll-over in November 2017, a workshop took place to identify methods to improve the practice. BadrEOR decided to make a step change in the way they delivered the service. This led to a 270,000 OMR investment to improve safety and enable cost savings to be passed onto customers. In addition, it resulted in the creation of new jobs with a 100% Omani workforce. This initiative has four main positive impacts, first it is cheaper as BadrEOR witnessed a 9% reduction of daily rates to clients. Second, it is safer with regards to a safe set up which ensures that PTW always remains within tanker operations. Third, increased efficiency since faster loading leads to a higher daily liquid capacity. Lastly, the process has a lower environmental impact as the larger capacity tankers require fewer trips.

Consolidated Contractors Company
Project Title: Development of Piping Construction Industry
Description: Volumetric Non-Destructive Examination (NDE) of high-pressure piping was acting as a real challenge to Rabab Harweel Project due to higher radiation, exposure time of radiography and construction of source pits and bunkers. This was in addition to more tough designs and quality requirements of international standards and many piping product forms with different specifications and grades. Therefore, CCC decided to integrate its advanced engineering in house software packages (C3D &Talisman) to first measure and control progress and quality of huge sour piping work volume
Pump Stuffing Box Project from the EWT offloading into GPP. More than 300,000 bbls of oil have been produced just in 2017 to date, to increase oil production. Since the off-spec tanks at the GPP facility and transported and offloaded to from these wells is loaded in tankers to conduct the EWT, produced oil an Extended Well Test (EWT) operation was made to utilize the GPP to age of this vital exploration, a decision was made. In order to take advantage of this innovation, a decision was made to utilize the GPP to process the discovered oil through an Extended Well Test (EWT) operation. While skills are being utilized to conduct the EWT, produced oil from these wells is loaded in tankers and transported and offloaded to the off-spec tanks at the GPP facility for processing and export in order to increase oil production. Since the implementation of this project in 2017 to date, more than 300,000 bbls of oil have been produced just from the EWT offloading into GPP.

Oman Oil Company Exploration & Production LLC (OOCEP)
Project Title: Utilization of Gas Processing Plant (GPP) as Gas and Oil Processing Plant
Description: This project is pertinent to OOCEP’s Block-60 concession area where an oil discovery was made. In order to take advantage of this vital exploration, a decision was made to utilize the GPP to process the discovered oil through an Extended Well Test (EWT) operation. While skills are being utilized to conduct the EWT, produced oil from these wells is loaded in tankers and transported and offloaded to the off-spec tanks at the GPP facility for processing and export in order to increase oil production. Since the implementation of this project in 2017 to date, more than 300,000 bbls of oil have been produced just from the EWT offloading into GPP.

Occidental of Oman
Project Title: Mukhaizna Beam Pump Stuffing Box Project
Description: Operating beam pumps in a steam flood is considered as a challenging operation in various aspects, mainly surface equipment and specifically the stuffing box part. This project was launched to manufacture a reliable stuffing box in Oman that meets and exceeds field expectations. The aim of manufacturing such boxes is to reduce wells down time, operating cost, and leaks. Preventing and reducing leaks in turn has a positive effect on the environment and it eliminates the potential location and unit cleaning costs. Another impact that the development of this project had is that it empowered our local economy, as the companies who manufactured the stuffing box are all Omani.

Petroleum Development Oman (PDO)
Project Title: Energy Efficiency Surveillance Tool
Description: The Energy Efficiency Surveillance Tool (EEST) is an energy saving tool built into PDO’s in-house real-time surveillance portal ‘Nibras’. EEST calculates energy gaps (i.e. current performance vs. ‘ideal’ expected performance) and provides the surveillance engineers with a visualization of the GAP and its value. The EEST pilot was completed in September 2017 in 2 production facilities. It identified opportunities for improvement via energy gaps of approximately 7.5 million USD/year (6-7% in MW energy from base case) combined from both production stations. In a matter of weeks after implementation, the asset teams have identified a few quick wins and successfully closed some energy gaps thereby reducing energy cost by 1 million USD/year. Furthermore, EEST provides a dollar value against each energy driver gap, which drives assets towards lower energy consumption on day to day basis by identifying corrective actions to be taken. Reducing energy consumption directly leads OPEX savings and reduction of Co2 emissions.

Petroleum Development Oman (PDO)
Project Title: Well Traffic Light Tool
Description: The well traffic lights tool acts as a live monitoring platform for the well delivery process; starting from subsurface maturation (front end loading, well picking and endorsements) to well drilling execution. The tool allows detailed visualization of the status of each milestone within the well delivery process. This initiative has ensured that all teams are fully onboard and take full ownerships to move towards compliance. Well traffic light is one major initiative that has significant impact on the well delivery. Since this platform is monitored by all involved teams, it increased the level of integration and cooperation which lead to significant reduction in the delays of: well proposals, drilling programmes, construction locations and other logistical preparations. In addition, the platform helped all team members to prioritise their tasks.
4. Small Business Development

Sarooj Construction Company LLC
Project Title: Mazyouna Crushers
Description: One of the core values at Sarooj Construction Company (SCC) is family. This is in essence the relationship that we build with our workforce, clients and subcontractors. In light of this, we would like to highlight the relationship that we have with one of our valued partners ‘Mazyouna Crushers’ and in doing so explain how their business grew in parallel with the growth of their relationship with SCC. Upon a visit to Mazyouna, SCC’s team were met by a man who owned a small crusher business selling about 10m3 of aggregate and 15m3 of sand per day. The man approached SCC to seek partnership opportunities and help to grow his small company. SCC’s team welcomed this idea and as a first step they started exploring the scope and what type of subcontractor would Al Mazyouna Crusher evolve into. Once they were awarded the contract, SCC’s team began their business improvement guidance on the quality of products and services that they provide. Furthermore, they began rigorous process of introducing small improvements to the business that led to increasing the productivity to 100m3 of aggregate and 120m3 of sand.

Petroleum Development Oman (PDO)
Project Title: Banat Oman
Description: Banat Oman programme is a way of supporting women to gain a new craft-based skill to bolster her household incomes. This is followed by the possibility of helping women start up their own businesses. PDO encouraged local women join Banat Oman and pursue a career in this sector. In doing so, Banat Oman also plays a role in the preservation of traditional Omani handicrafts and offers a basis for promoting Oman and Omani made handicrafts locally and internationally. To date, more than 300 women have been trained in a wide range of skills at various locations across the country. Some of these training programmes include jam making, soap making, textiles, fish drying, and school bags making.

Technical Rubber - NEKTEL
Project Title: Technical Rubber - NEKTEL
Description: Technical rubber is the first of its kind company in Oman producing different type of shapes of rubbers. PDO adopted this project to develop and qualify this small Omani industry to meet international standards. During the audit, PDO’s team was committed to help this company to reach the required quality and technical standards. Critical non-conformity as well as gaps were identified and communicated to technical rubber. PDO has accompanied technical rubber through a long journey that took more than a year to close the raised NCRs and gaps. This included knowledge sharing, reviews and multiple visits to the factory until they finally met PDO and international standards and got approved in PDO vendor list. The approval suggests that technical rubber can now produce high quality industrial rubber product which is important as it means that PDO and Oman are enabled to source their rubber requirements locally.
OPAL

Technology and the future of work

Key study to identify impact of emerging technologies on energy sector labour

Oxidental Oman is funding a key research study that will explore and evaluate the impact of existing and emerging technologies on careers, as well as skills and training requirements within Oman’s energy sector. The 18-month-long study is being conducted by the Oman Society for Petroleum Services (OPAL) and the International Maritime College Oman (IMCO).

An agreement to this effect was signed on 4th December 2018 against the backdrop of the OPAL Oil & Gas Conference held at the Oman Convention and Exhibition Centre (OCEC). Mr. Musallam Al Mandhari, Chief Executive Officer of Opal, and Mr. Steve Kelly, President and General Manager of Occidental Oman, were the signatories for their respective organisations. The signing was witnessed by HE Salim bin Nasser Al Aufi, Under-Secretary of the Ministry of Oil and Gas.

The research study aims at recommending strategies to address the evolving skill requirements within the Omani labour market, and providing labour market intelligence for key stakeholders within the energy sector.

“The energy sector is undergoing a transformation, with a stronger focus on digitalisation and the development of new technologies,” said Mr. Kelly. “We believe that research over the future of Oman’s labour market is essential to the sector’s future progress, and will bring forth important recommendations on skill requirements and future training programmes for Oman’s workforce. We feel proud to contribute to research over the Sultanate’s burgeoning energy sector, and we are committed to meeting the growing needs of the industry,” he added.

The study also aims at encapsulating data that will be collected from various ministries and government agencies, including the Ministry of Manpower, the Ministry of Higher Education, and the National Centre for Statistics and Information. The research study will collect its data using interviews, focus groups and surveys from key stakeholders within the energy sector.

IMCO will provide a panel of expert researchers and administrative assistants to manage the delivery of the research study. This sponsorship falls under Occidental Oman’s umbrella of strategic partnerships and continuous collaboration with key stakeholders, and is part of Occidental Oman’s endeavour and long-term commitment to support programmes that enhance economic growth and sustainable development in Oman. ♦
Pitching in as the Support Sponsor of the ‘Future of the Labour Market in the Energy Section Project’ was Oman Oil Company Exploration and Production LLC (OOCEP), which also signed an agreement with OPAL during the finale of the OPAL Oil & Gas Forum on 4th December 2018. Signing on behalf of their respective organisations were Mr. John Malcolm, Executive Managing Director – OOCEP, and Mr. Musallam Al Mandhari, CEO – OPAL.

The project will be conducted as a collaboration between OPAL and the International Maritime College (IMCO) and will study the impact of technologies on the GCC labour market, skills and training. As part of the study, the project team from IMCO will undertake the following:

(i) Create a list of existing and emerging technologies, (ii) Identify jobs/skills that are declining and new jobs/skills that are emerging, (iii) Develop a strategy to bridge the skill gaps in order to improve the employability of young graduates, (iv) Give recommendations to policy-makers on how to align education and training providers’ curricula with industry employment needs based on key stakeholder views, and (v) Publish the findings at national and international conferences and in journals.

The project’s tenure is about 15 months, extendable by a further period.
In the current capital-constrained environment, an area of potential value is the release of operating capital locked in inventories.

“From discussions with many of our customers in Oman over this last year, it’s clear that a powerful vision exists to improve capital efficiency within Oman’s oil and gas supply chain,” observed Matthew Bishop, Managing Director of WorleyParsons Oman. This vision was shared by other customers globally, and so for the WorleyParsons Group, it was time to rethink how it executed procurement activities. Inspired by online consumer retail platforms, WorleyParsons set out to make its procurement process more efficient by creating an online marketplace for the oil and gas industry. In collaboration with Ebay and 6fusion, we developed Requis, an online supply chain and commerce platform built for supply chain professionals to buy, manage, and sell industrial material and equipment.

In a similar way that eBay and OLX have revolutionized the consumer sup-
ply chain by connecting consumers with other consumers, Requis is set to change the face and pace of oil and gas procurement as different industries can collaborate in new and innovative ways.

“When we launched Requis, the vision was that it would help break silos between industries and enable people to work collaboratively instead of side by side,” explains Ross McPherson, Director of Operations, Requis. “Sharing inventory on Requis can allow upstream oil and gas companies to connect to downstream or petrochemical companies who they wouldn’t normally interact with. The platform could also enable utility providers to share resources and critical parts in a transparent and traceable way based on their regions. We’re pleased to report that Requis does exactly that.”

The platform empowers buyers with superior datasets and transparent pricing, removing any uncertainty. And all assets listed on the Requis platform are certified, so customers know where the items are coming from, but at a fraction of the price of procuring new equipment and materials. From a seller’s point of view, it’s a win/win situation in that companies need to dispose of their surplus material anyway but do so often at a big loss. “We’ve seen Requis help companies recover five, ten or twenty times more value than the traditional way of managing surplus material. Further benefits are achieved by eliminating costs related to scrapping or on-going storage,” says Andy Pottage, Location Procurement Manager, WorleyParsons. “And it’s the same with spares, why do operators have high spares inventory? Are they over purchasing or provisioning due to lack of data? Through Requis, operators can better understand their excess and surplus and how they can optimize that”.

Requis also removes the sometimes manual and lengthy procurement processes by streamlining and digitizing the time-consuming transactional side of procurement. And for suppliers, it enables them to list and move inventory through a more efficient process and to a wider market.

When asked to summarise Requis in three words, Alan Dunning, Co-creator of Requis and Procurement and Contracts Manager, WorleyParsons, chose ‘Efficient. Empowering. Intuitive’. He says, “Requis is efficient because it handles the standard processes efficiently, it is empowering because it enables procurement professionals to use their wider skills to add more value, and it is intuitive because you do not need days of expensive training to understand it. It is as simple as OLX to navigate, search, buy and sell. And the Requis team are always on hand to offer support.”

But the Requis vision doesn’t stop with oil and gas and it doesn’t end with buying and selling. The vision is to become the central nexus for all activity in creating or disposing of any industrial product – efficiently managing the lifecycle of the assets that run the business.

Requis currently has five tier 1 operators registered or committed to using Requis. To find out more about Requis visit requis.com and follow us on LinkedIn.

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**About Advisian Digital**

Advisian Digital, the WorleyParsons Group’s data science, software and technology business, helps clients improve their operational performance by embracing digital technology and its future state.

We often encounter situations where cost and production inefficiencies, as well as process safety and integrity risks, are fundamentally caused by wrong operational information, missing information or disconnected information. Advisian Digital has developed numerous digital solutions that address these and associated problems, including data collation, integrity and remediation platforms, global supply chain platforms, sensor integration and machine learning, advanced technology integration including industrial drones, digital twins and advanced sensors as part of the Internet of Things.
Al Shawamikh Oil Services

Creating value for local communities and the local economy

Staying true to its roots as a Super LCC, Alshawamikh continues to generate value for local communities in Al Dakhiliyah Governorate via the creation of jobs for local youths, business opportunities for local SMEs, and positive returns for local shareholders.

Al Shawamikh Oil Services has come a long way since it commenced operations in 2011 as a Super Local Community Contractor (SLCC) – one of six such entities established by the government within the concession areas. Over the five years since it was formally launched, the company has grown significantly, not only in the size of its workforce, but also in terms of its capabilities, and its overall positioning as a trusted, well-known oilfield services provider. Like its peers, Alshawamikh is collectively owned by a group of Omanis who hail from the oilfield areas of the country. The company’s shareholding is made up of 1,513 people, the large majority drawn from the wilayats of Adam and Bahla in Al Dakhiliyah Governorate. Together, they represent the social fabric of the communities that have a stake in Alshawamikh’s success. From its inception in 2011, Alshawamikh developed progressively to realize...
the national objectives for which Super Local Community Contractors have been established in line with His Majesty’s Royal Directives,” according to Dr. Hamoud Al Tobi, CEO.

“The objective is to create investment opportunities for the people living in and around the oilfields and hence maximizing the base of local communities benefiting from the broader distribution of revenues generated through oil and gas activities. This is in addition to creating employment opportunities for local workforce and enhancing in-country-value (ICV),” he said.

Significantly, Alshawamikh has evolved to offer a wide range of services to clients in the oilfield areas of the Sultanate. This includes Drilling & Workover, Well Services, Support & Logistics, and Pipeline & Facility Services.

“Indeed, we are proud to say that Alshawamikh has proven capabilities and the conviction to deliver these services to a high degree of customer satisfaction. In our portfolio of services we strive to maximize client value through innovation in service delivery and world-class performance,” the CEO noted. Attesting to this dramatic enhancement in the company’s capabilities was Alshawamikh’s main contract with PDO, which commenced in 2013 for the provision of hoist standard workover services. This was scaled up in 2017 to include heavy workover services in unconventional complex, high pressure, high temperature, deep oil and gas wells, some of which are classified as sour wells involving high H2S levels and mandating stringent safety controls. Recently, Alshawamikh celebrated five years without LTI in the delivery of this contract – a commendable feat indeed.

Additionally, the company is executing an integrated pipeline integrity maintenance contract for PDO in Central Oman. The scope includes a variety of specialized pipeline services such as pigging, mechanical maintenance, corrosion monitoring, cathodic protection, and so on.

Alshawamikh’s services are not limited to PDO alone, says Dr. Al Tobi. “Expanding our customer base has been a key priority for Alshawamikh from day one. Since 2012, Alshawamikh started service delivery outside PDO’s concession to Occidental blocks in Oman North. Our key projects with Oxy include several wells and logistics related services as such wellhead maintenance, slickline Intervention, warehouse operations and drilling fluids haulage.”

The CEO sees the SLCC model as an effective vehicle for generating value for local communities. “In my view, the SLCC journey has been a big success and a model worth replicating outside oil and gas into other sectors to build local capabilities and enhance ICV. Today, there are six SLCCs representing more than 10,000 people from the concession areas. Each of these SLCC(s) has been a success in their own right.”

Setting Alshawamikh apart from its peers, however, is its steadfast commitment to its stakeholders, Hamoud explains. “At Alshawamikh, we give paramount importance to our clients’ needs and build flexible and trustworthy relationships. Besides, our business portfolio offers clients a unique selection of services, while we position the company to sharpen these services through the deployment of technology and innovation.”

As can be expected of a community-centric SLCC, Omanisation and skills development are priority goals for Alshawamikh. “At Alshawamikh, we are proud of our Omanization levels which in some areas, such as hoist operations, exceeds 90%. To support career development for Omanis we run various internship programmes offering young graduates the opportunity for practical hands-on exposure. Also, we work closely and transparently with our clients and stakeholders on several initiatives to execute opportunities for enhancing Omanization within the scope of our operations. As a local community shareholding with 100% Omani ownership and high Omanization levels, Alshawamikh represents a major ICV proposition in itself. In addition, we are also working hard to support SMEs; Currently we have more than 25 registered SMEs working with Alshawamikh.”

The CEO credits Alshawamikh’s success to the steadfast commitment of Oman’s main Oil & Gas operators such as PDO and OXY, as well as the Ministry of Oil and Gas. “As an SLCC, we are grateful to the generous support extended by the government and our committed clients towards the growth of Super Local Community Contractors. Truly, the SLCC model within oil and gas has been successful in many aspects and it is a practice worth replicating in other sectors of the Omani economy in order to develop local capacities and ensure the participation of the local communities,” he added.
OPAL’S growing family

Be a proud member of the OPAL fraternity!
If you are vendor of products and services catering to the oil and gas sector, join OPAL and benefit from the Society’s expertise and reach to achieve your strategic and business growth objectives.
Register now!

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<td>279 Ryam Engineering &amp; Services LLC</td>
<td>320 Special Technical Services LLC</td>
<td>361 Viking Oman Oilfield Services LLC</td>
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<td>281 Rukan Al Yaqeen International LLC</td>
<td>322 Synergy Petroleum International LLC</td>
<td>363 Voltas Oman LLC</td>
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<td>282 Rukan Al Yaqeen International Oil &amp; Gas LLC</td>
<td>323 Sivitx Sohar LLC</td>
<td>364 Waleed Associates LLC</td>
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<td>283 Rukan Al Yaqeen International Skills Development LLC</td>
<td>324 Target LLC</td>
<td>365 Waled Catering &amp; Services Co. LLC</td>
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<td>284 Ryba Haima Trading Co. LLC</td>
<td>325 Takatuf Petrofac Oman LLC</td>
<td>366 Weatherford Drilling International (Oman) LLC</td>
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<td>285 Saeed Bin Masoud International</td>
<td>326 Towos Industrial Services Co. SAOC</td>
<td>367 Weatherford Oil Tool Middle East Ltd</td>
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<td>286 Safety Cooperation Services LLC</td>
<td>327 Technical &amp; Administrative Training Institute LLC</td>
<td>368 Weir Solutions FZE-Oman Branch</td>
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<td>287 Safety Technical Services Co. LLC</td>
<td>328 Technical Trading Co. LLC</td>
<td>369 Well Maintenance Services LLC</td>
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<td>288 Safeway Engineering Services LLC</td>
<td>329 Tethys Oil Block 3 &amp; 4 LTD (Oman Branch)</td>
<td>370 Well Solution Services LLC</td>
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<td>289 Saih Al Nihadha Trad. &amp; Cont. Co.-Ass.</td>
<td>330 Tobodin &amp; Partner LLC</td>
<td>371 White Light Services &amp; Trading LLC</td>
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<td>290 SAIPEM SPA</td>
<td>331 The Oman Construction Co. LLC (TOCD)</td>
<td>372 Wipro Gulf LLC</td>
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<td>291 Samara United</td>
<td>332 The Petroleum Projects (Petrojet &amp; Partners LLC)</td>
<td>373 Worley Parsons Oman Engineering LLC</td>
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<td>292 Sana’a Desert Trading LLC</td>
<td>333 Thomassen Services &amp; Contracting Co. LLC</td>
<td>374 Zawawi Business Development Co. LLC</td>
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<td>293 Saroj Construction Company LLC</td>
<td>334 TMTEC Trad &amp; Technical Services LLC</td>
<td>375 Zawawi Powertech Engineering LLC</td>
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<tr>
<td>294 Suud Bahwan Automotive LLC</td>
<td>335 Total Automation Solutions LLC</td>
<td>376 Zubair Oil &amp; Gas LLC (ZOGAS)</td>
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</table>
18 – 20 February 2019
Global Summit and Expo on Power & Energy Engineering

Theme: Recent and Future Technology Trends in Power & Energy Sectors
Venue: Flora Grand Hotel, Dubai, UAE

5 – 6 March 2019
Intersolar Middle East Conference

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Venue: Dubai World Trade Center

18 – 21 March 2019
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Organised by the Society of Petroleum Engineers (SPE), the parallel conference is the most respected of its kind in the region and serves all areas of the Oil & Gas industry.
Venue: Bahrain International Exhibition and Convention Centre

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MENA New Energy 2019

A wind, solar and energy storage conference and exhibition
Venue: Le Meridien Dubai Hotel & Conference Centre, Dubai - UAE

7 – 9 April 2019
27th Annual Middle East Petroleum & Gas Conference

The 27th edition of the series will address the continuing volatility and supply uncertainty faced by the global oil markets in the relationship between OPEC, US oil production and recent sanctions.
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17 April 2019
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