



وزارة النفط والغاز  
Ministry of Oil & Gas



**Committed to  
Sustainable Development**



**ANNUAL  
REPORT  
2018**





وَزَارَةُ النِّفْطِ وَالغَّازِ

Ministry of Oil & Gas

The Directorate General of Planning and Studies

Department of Planning and Follow-up

## HIS MAJESTY'S SPEECH

“The most debated subject of the hour is oil, the main source of energy in the entire world. As far as we are concerned oil is the main source of our wealth, with the revenues from which we have been able to develop our country, and fulfil our achievements. As the consumer seeks to buy oil, so do we need to install our local oil industry and to sell our oil in the international markets so that we may be able to fulfil our development plans.

It is therefore necessary to follow a sound oil policy in conjunction with a united Arab oil policy with strong consciousness which realizes the importance of oil and makes the best use of it, so this national wealth can play its role as a source of energy and as an important economic source.

It is our hope that consumer countries will realize the real wishes of the producing states and that the world may understand that we are not merely seeking profits but that we work for peace and the welfare of humanity.”

**Excerpt from the Speech of His Majesty  
on the occasion of the 4th National Day (18.11.1974)**



**HIS MAJESTY  
SULTAN QABOOS BIN SAID**



# FOREWORD

**H.E. Dr Mohammad bin Hamed Al Rumhy**  
Minister of Oil & Gas - Sultanate of Oman





By Allah's grace and blessing, the oil & gas sector witnessed a number of achievements and accomplishments of the national objectives set by His Majesty's Government.

In 2018, the sector continued its successful journey in exploiting natural resources and harness all available financial resources and human capabilities, as well as new technologies in the fielding of exploration, production, transport, export, refining, petrochemicals, and other industries related to natural gas.

The Sultanate has a production capacity of up to one million barrels daily of oil and condensates, and natural gas averaging 110 million cubic metres daily, boosted by the increase in annual reserves resulting from new discoveries and development of the productive oilfield operations. This report highlights the major projects executed by the oil and gas companies at an estimated cost billions of USD. The number of operating companies in the oil concession areas reached 18 national and international companies working in 32 areas; other concession areas will be awarded in early 2019.

Success in the sector will enable other sectors to create economic integration and diversification in the country, with an emphasis on boosting In-Country Value through training and employment of national workforce, establishing local industries, enabling SMEs to participate in offering different services, and qualifying some of them for specialised technical work. In fact, local companies have been awarded concession areas for oil and gas exploration. Some have become oil and gas production companies and service providers in different fields such as drilling, maintenance, engineering, construction, as well as manufacturers of equipment and devices.

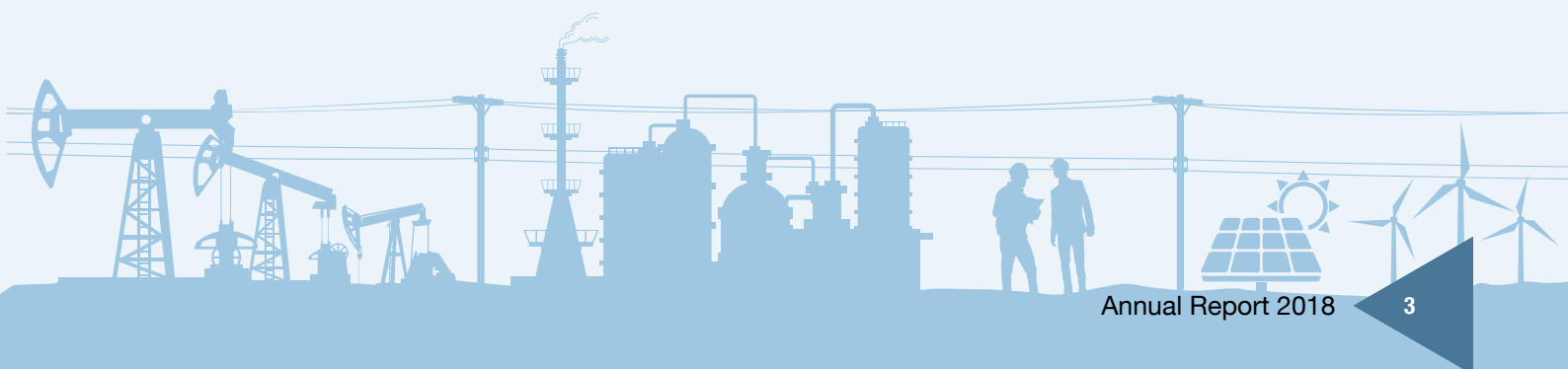
The sector has worked to ensure closer alignment with Oman Vision 2040 towards achieving economic diversification. For this purpose, the sector started utilising solar energy to generate steam in Amal field and to pump it into wells to increase the production of the field, instead of using natural gas, as other projects.

Work has begun on the construction of a solar power station with a capacity of 100 MW, the largest project of its kind currently executed in the Sultanate. It encourages other sectors in the Sultanate to start using renewable energy resources in order to promote sustainability, create employment opportunities, and ensure a clean, pollution-free environment with reduced greenhouse effect.

With the aim of rationalising power consumption and availing any surplus, the power grid of oil & gas companies will be connected with the public power system in the Sultanate.

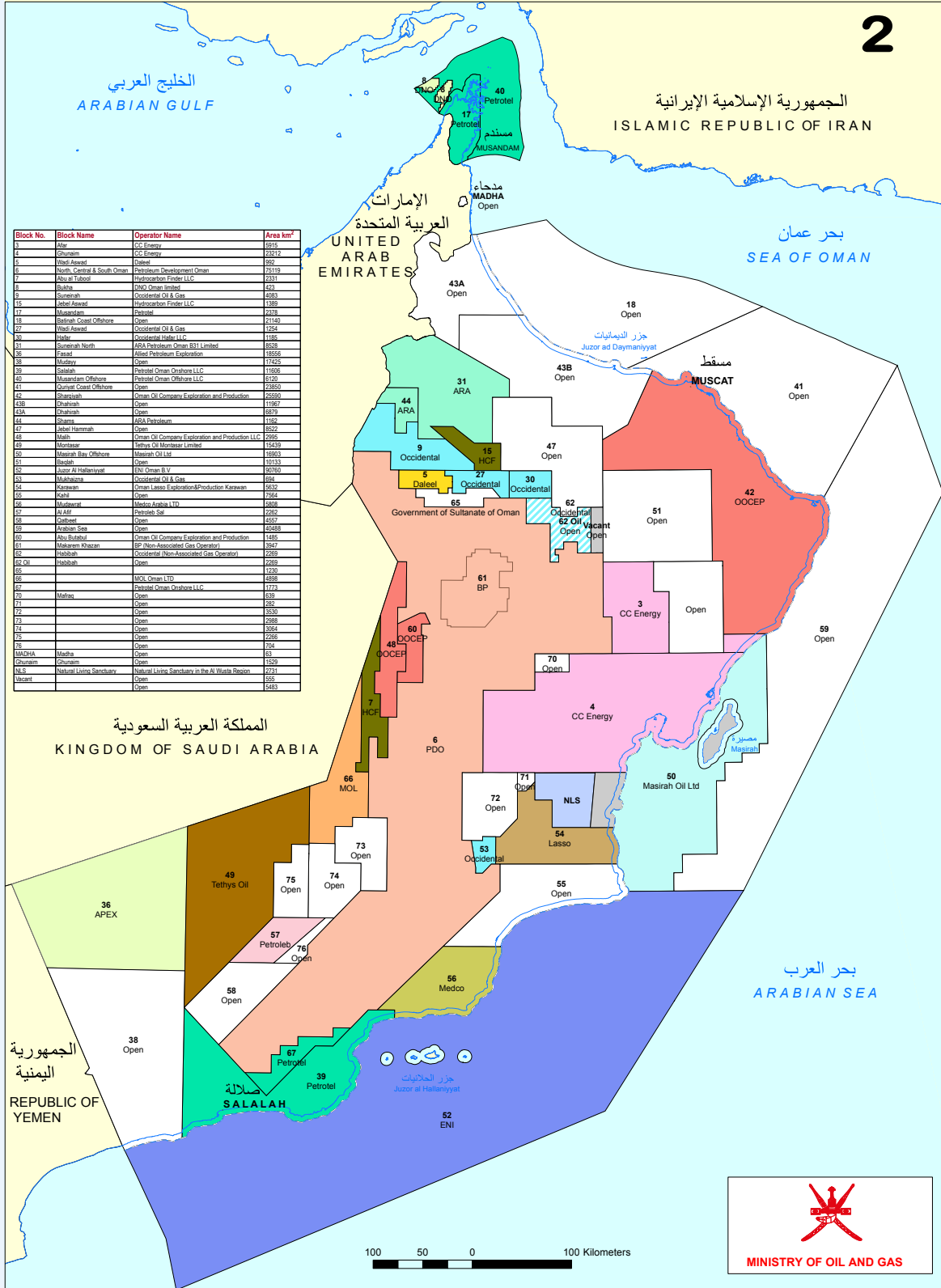
The oil & gas sector will always strive to serve this country and continue its support to the goal of economic diversification.

**H.E. Dr Mohammad bin Hamad Al Rumhy**  
Minister of Oil & Gas, Sultanate of Oman



# SULTANATE OF OMAN CONCESSION BOUNDARIES

2



This map is not an authority on international boundaries.

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# INTRODUCTION

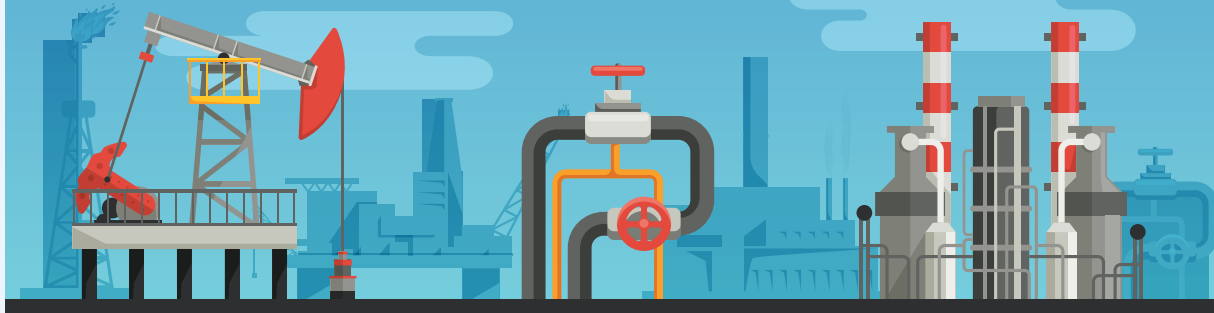
Ministry of Oil & Gas (MOG) supervises the various activities in the oil & gas sector, encourages investments in exploration, drilling, and exploitation of oil and gas resources in the Sultanate.

Furthermore, the Ministry is involved in the marketing of open areas in the sector and has signed a number of agreements, while ensuring flexibility of its terms and conditions. 2018 witnessed many significant achievements and developments in this sector. This report highlights the main achievements, as follows:

- MOG signed three new oil-sharing agreements: First agreement is with Petroleb LLC in concession area number 57. Second agreement, with Occidental Oman in concession area number 51. Third agreement, for concession area number 65 with a joint venture between Occidental Oman and Oman Oil Company Exploration and Production (OOCEP). The investment amount for the first phase was around USD 58 million. Nevertheless, exploration activities are underway. During 2018, 88 exploration and appraisal wells were drilled and evaluated, which added new oil and gas reserves, while securing continuous oil and gas production.
- As for the indicators of the reserves, the estimated oil reserves of the Sultanate at the end of 2018 is about 4791 Million barrels, while natural gas reserves reached 25 trillion cubic feet.
- Natural gas production has risen by 12% compared to the previous year, while liquefied natural gas exported by Oman LNG and Qalhat LNG has risen by 19% compared to 2017.
- Additionally, international oil prices have risen in 2018, and the average price of Omani crude oil reached USD 70 per barrel, an increase of about 35.8% compared to last year.
- With aim of creating job opportunities for Omanis in the oil & gas sector, MOG launched the online Joint Employment Portal, PetroJobs.om. It is a key ICV outcome. Petrojobs is supervised by MOG in coordination with the operating companies in the oil & gas sector.
- In terms of human resources capacity building in the Sultanate, Oman Oil & Gas Institute was opened on 18 March 2018. This institute focuses on the training and qualification of engineers and geologists, providing them with the necessary skills to develop and sustain the Sultanate's oil and gas resources.



# OIL & GAS INDICATORS



3 production sharing agreements for oil and gas exploration were signed



Average daily production of crude oil and condensates reached 978,000 barrels



The Sultanate's total reserves of crude oil and condensates are about 4791 Million barrels



Total petroleum exports touches 289 million barrels



China topped the list of importing countries at 83%



The average price of Omani crude oil was USD 70.



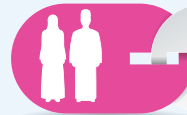
Total petroleum products output from Mina Al Fahal and Sohar refineries was 113 million barrels



88 exploration and appraisal wells, 66 oil wells and 22 gas wells were drilled



Total number of productive fields in the Sultanate of Oman are 299, of which 256 are oil fields and 43 gas fields



Omanisation in the oil & gas sector reached 82%



Average daily production of natural gas was 120 million cubic metres



Total natural gas reserves are 25 trillion cubic feet



LNG exports were 10 million metric tonnes



The Sultanate's production of LPG was 636,000 metric tonnes

# HEALTH, SAFETY, SECURITY AND ENVIRONMENT (HSSE)

The Ministry of Oil & Gas emphasises the importance of adherence to HSSE standards as production operations are prone to risk. The operating companies consider health and safety as one of their main priorities. Therefore, they organise awareness programmes for their employees and develop health and safety procedures in the work environment to protect employees working in the sector from risks, as well as to protect and preserve the environment from harm.

## **Petroleum Development Oman**

Safety is an overarching priority in the company. The company focuses on realising the target Goal Zero, which means no harm to people, assets or environment. The company registered a new benchmark in safety. Lost time injury (LTI) frequency per million man-hours decreased from 0.20 to 0.15, a reduction of 25%. Although this performance was marred by two work-related fatalities in contracting companies, which is being investigated to avoid a future repetition. In this regard, the company marked a remarkable achievement for driving about 750 million kilometres without a work-related fatality.

## **Occidental Oman**

The safety performance of Occidental Oman (Oxy), in 2018, included one recordable injury for an Oxy employee and 15 recordable contractor injuries, resulting in a combined injury and illness incidence rate (IIR) of 0.08. Oxy employees had worked over 22 million hours since 2015 without a recordable injury.

## **Daleel Petroleum**

The company recorded an outstanding HSSE performance. Zero fatalities were recorded in 2017 and 2018. Daleel recorded one LTI in 2018 compared to zero LTI in the previous year. In terms of road traffic accidents in 2018, Daleel had two compared to one in 2017.

## **CC Energy Development**

The company has always emphasised an HSSE culture, focusing on contractor safety, road safety, occupational health, and risks management. Overall, the company achieved a good performance on safety. Lost time injuries rate at work was 0.28 in 2018, against 0.45 in 2017. Two LTIs were recorded in 2018.

### **BP Oman**

The company works very closely with its staff and main contractors to ensure full awareness, understanding and compliance with safety measures. The company pays great attention to the security of its sites and to the way of doing work. The company achieved 0.45 million man-hours without any LTI incidents, as well as driving safely for 1.58 million kilometres.

### **Oman LNG**

As a result of the company's careful application of rigorous standards of health, safety and environment, Oman LNG (OLNG) achieved more than 29 million man-hours without lost time injury in 2018 compared to 24.7 million man-hours in 2017. Another achievement has been in driving more than 26 million kilometres without a traffic accident.

### **Hydrocarbon Finder**

The company considers HSE as a top priority for its business. It achieved 1,000 days without lost time injuries in 2018. It undertook many health and safety initiatives, such as completion of ISO-certification procedures and the application of a comprehensive new health and safety programme.



# OMANISATION IN THE OIL & GAS SECTOR

The number of employees working in oil and gas companies operating in Oman during 2018 reached 18,095, of which 14,927 were Omanis and 3,168 were expatriates. By the end of 2018, Omanisation in the upstream and downstream businesses of the oil & gas sector reached 82%, an increase of 7% against 2017. These figures do not include the workers in the contracting and services companies operating in the oil & gas sector.

**Table (1): Workforce volume and Omanisation percentage in the oil & gas sector**

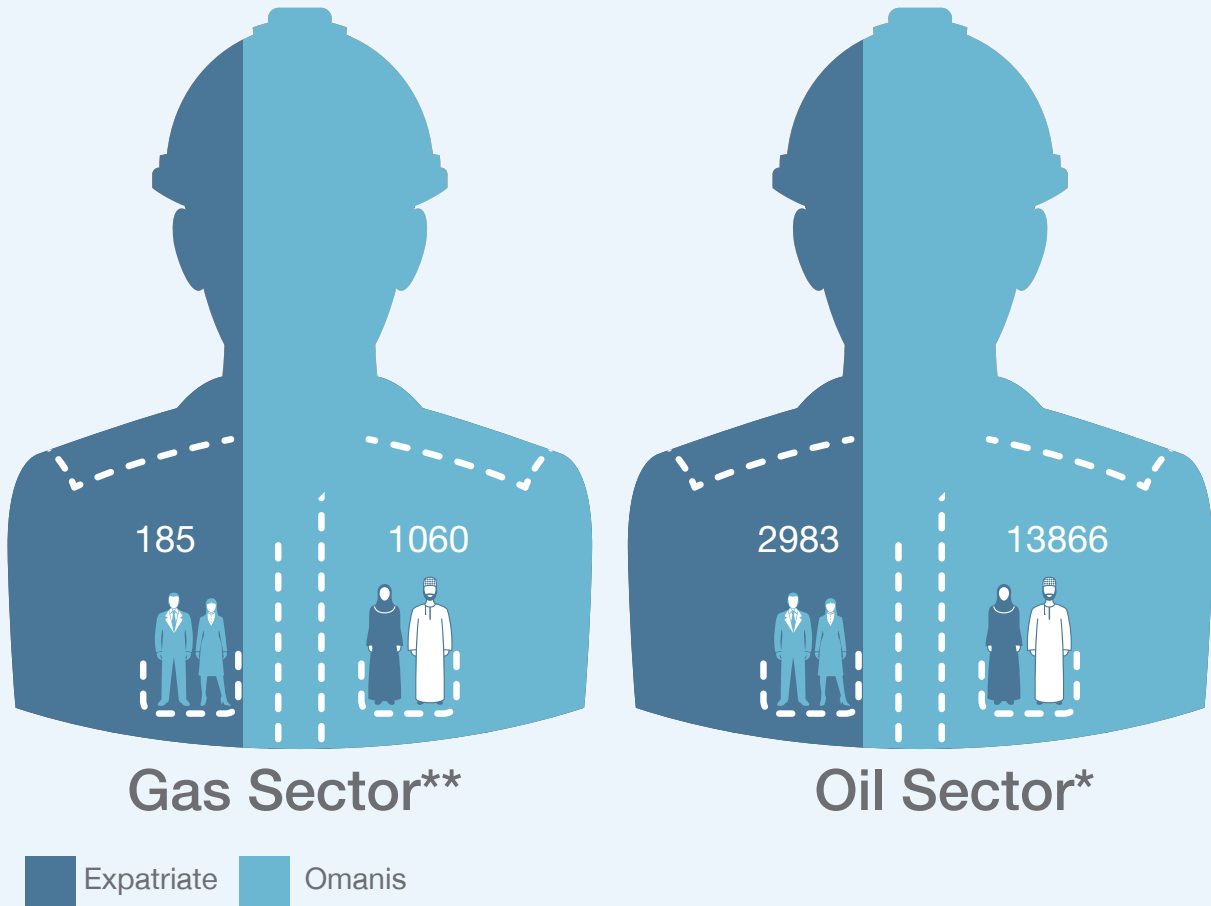
Sector	Description	No. of workers	%	Total by sector
Oil*	Omani	13866	82	16849
	Expatriate	2983	18	
Gas**	Omani	1061	85	1246
	Expatriate	185	15	
<b>Total workforce</b>	<b>Omani</b>	<b>14927</b>	<b>82</b>	<b>18095</b>
	<b>Expatriate</b>	<b>3168</b>	<b>18</b>	

\*Includes all production, exploration, refining & petroleum companies in the oil & gas sector

\*\*Includes OLNG & OGC



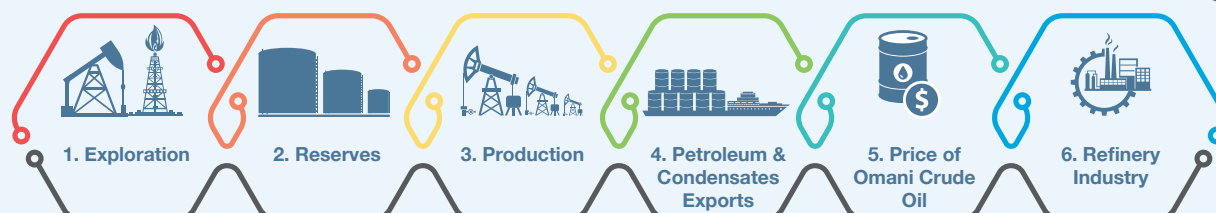
## Workforce in the oil & gas sector in 2018



\*Includes all production, exploration, refining & petroleum companies in the oil & gas sector

\*\*Includes OLNG & OGC

# OIL SECTOR



## 1. Exploration

Oil and gas companies operating in the concession areas in 2018 drilled, tested and evaluated 66 exploration and appraisal wells; 12 of which were drilled previously, and tested and evaluated in 2018. The petro-physical analysis and productivity tests in some of the wells showed positive results, adding new oil reserves.

The following table shows the number of exploration and appraisal wells of each company in the oil sector:

**Table (2): Oil exploration and appraisal wells**

Company	Number of oil wells
Petroleum Development Oman	29
Occidental Oman (Blocks 9, 27)	13
Occidental Oman (Block 53)	4
CC Energy Development	5
Other companies*	15

\*Other companies include Medco, Petrotel, OLEP, Daleel Petroleum, Oman Oil Company Exploration and Production, and Hydrocarbon Finder

By the end of 2018, 18 companies were involved in oil and gas exploration and production operations in 32 concession areas. Petrogas Kahil had relinquished its concession area number 55, located in Al Wusta Governorate, on 14 August 2018.

**Table (3): Oil & gas exploration and production companies operating in the Sultanate at the end of 2018**

Sl. No	Company name	Block number	Signing date	
1	Petroleum Development Oman	6	19/12/2004	
2	Occidental Oman	Occidental Oman Incorp	9	07/12/1975
		Occidental Oman Oil& Gas limited	27	15/06/1998
		Occidental Hafar	30	14/11/2017
		Occidental Mukhaizna LLC	53	21/06/2005
		Occidental Oman Gas	62	22/11/2008
		Occidental Oman B65 LLC	51	16/12/2018
		Occidental Oman B65 LLC	65	16/12/2018
3	ARA Petroleum	44	21/07/2002	
	ARA Petroleum Oman B31 LLC	31	14/11/2017	
4	Daleel Petroleum LLC	5	04/07/1981	
5	DNO Oman limited	8	25/05/1985	
6	Allied Petroleum Exploration INC	36	10/08/2011	
7	CC Energy Development S.A.L (Oman branch)	3 and 4*	09/02/2003	
8	Hydrocarbon Finder LLC	15	06/09/2005	
		7	28/01/2016	
9	BP Exploration Epsilon Ltd	61	22/01/2007	
10	PetroTel Oman	Petro Tel Oman LLC	17	23/05/2009
		PetroTel Oman Offshore	40	06/08/2011
		Petro Tel Oman Inshore LLC	39 and 67*	26/03/2013
11	Masirah Oil Limited (Oman branch)	50	28/02/2011	
12	Oman Oil Exploration& Production LLC	42	11/10/2011	
		48	31/01/2017	
		60	19/03/2011	
13	MOL Oman Ltd	66	09/09/2012	
14	Medco Arabia Ltd	56	20/11/2014	
15	Oman Lasso Exploration& Production Karwan Limited	54	22/09/2015	
16	Tethys Oil Montasar Limited	49	14/11/2017	
17	Eni Oman B.V	52	14/11/2017	
18	Petroleb S.A.L	57	10/01/2018	

\*Two blocks with one sharing agreement

In 2018, the Ministry of Oil & Gas signed three production-sharing agreement, as follows:

**Table (4): List of new petroleum agreements in 2018**

Company	Block	Signing date	Agreed investments for Phase 1 (Million USD)
Petroleb LLC	57	10/01/2018	20
Occidental Oman B51 LLC	51	16/12/2018	6
Occidental Oman Block 65 LLC/ Oman Oil Exploration and Production LLC	65	16/12/2018	32



USD **20** Million



USD **6** Million



شركة النفط العمانية ش.م.ع.م.  
**Oman Oil Company S.A.O.C.**

USD **32** Million



## 2. Reserves

By the end of 2018, the total reserves of crude oil and condensates in the Sultanate amounted to about 4791 Million barrels, up by 1.1% in comparison with 2017. Petroleum Development Oman contributes about 69% of the total reserves of the year.

**Table (5): Estimated reserves of crude oil & condensates at the end of 2018**

Company	Estimated Reserve (Million Barrels)
Petroleum Development Oman	3285.9
Occidental Oman (9, 27, 53, 62)	929.6
BP Oman (Khazzan)	141.2
BP Oman (Ghazeer)	160.4
Daleel Petroleum	137.3
CC Energy Development	83
Oman Oil Company Exploration and Production	34.6
Hydrocarbon Finder	12.5
DNO Oman	5.5
ARA Petroleum	1
<b>*Total</b>	<b>4791</b>

\*Total may not be exact due to approximation

## 3. Production

The average daily production of oil during 2018 amounted to 978,000 barrels per day against 972,000 barrels per day in 2017, an increase of 0.7%. The Sultanate maintained its level of oil production in compliance with the agreement to curb output among the OPEC and non-OPEC producers in order to stabilise the international oil supply and demand.

**Table (6): Production of crude oil & condensates at the end of 2018**

Type	Annual production (Million Barrels)	Daily average (Thousand Barrels)
<b>Total oil production</b>	<b>357</b>	<b>978</b>

## 4. Petroleum & Condensates Exports

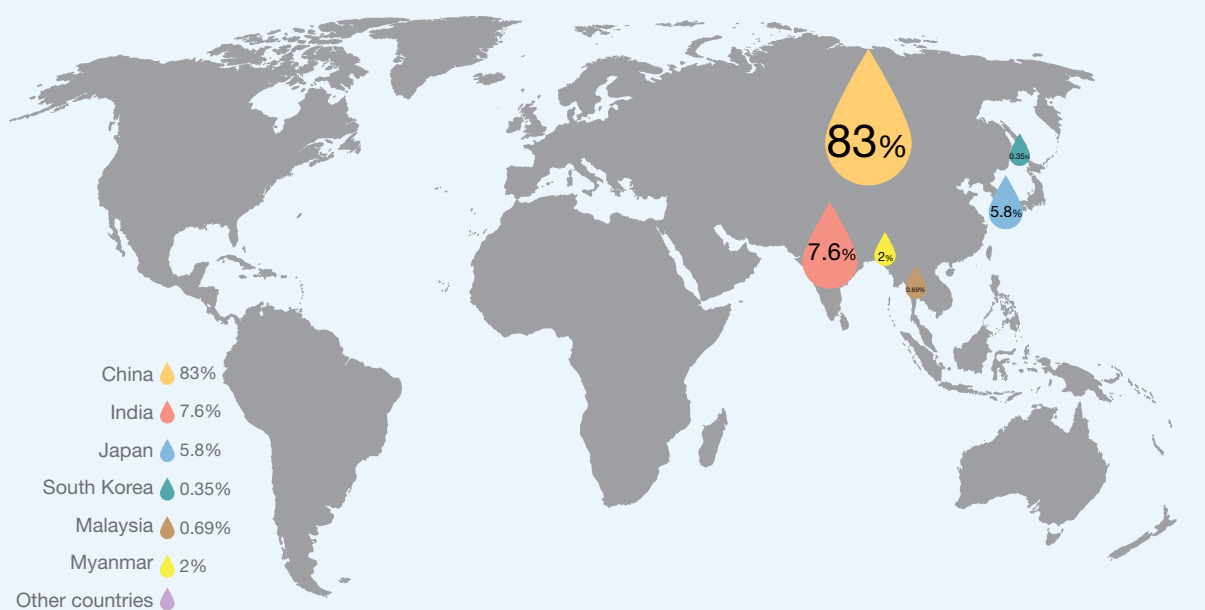
The total exports of oil and condensates during 2018 amounted to 289 million barrels. People's Republic of China topped the list of the countries importing crude oil from Oman, with 83%, followed by India with 8%. The rest of the countries represented 9% of the total exports of crude oil and condensates in 2018.

**Table (7): Exports of crude oil and condensates as per importing countries in 2018**

Country	Quantity of exports (Million Barrels)
People's Republic of China	240
Republic of India	22
Japan	17
South Korea	1
Malaysia	2
Myanmar	6
Other countries*	1
<b>Total</b>	<b>289</b>

\*Representing United Arab Emirates and Thailand

### Petroleum and condensates exports as per importing countries for the year 2018



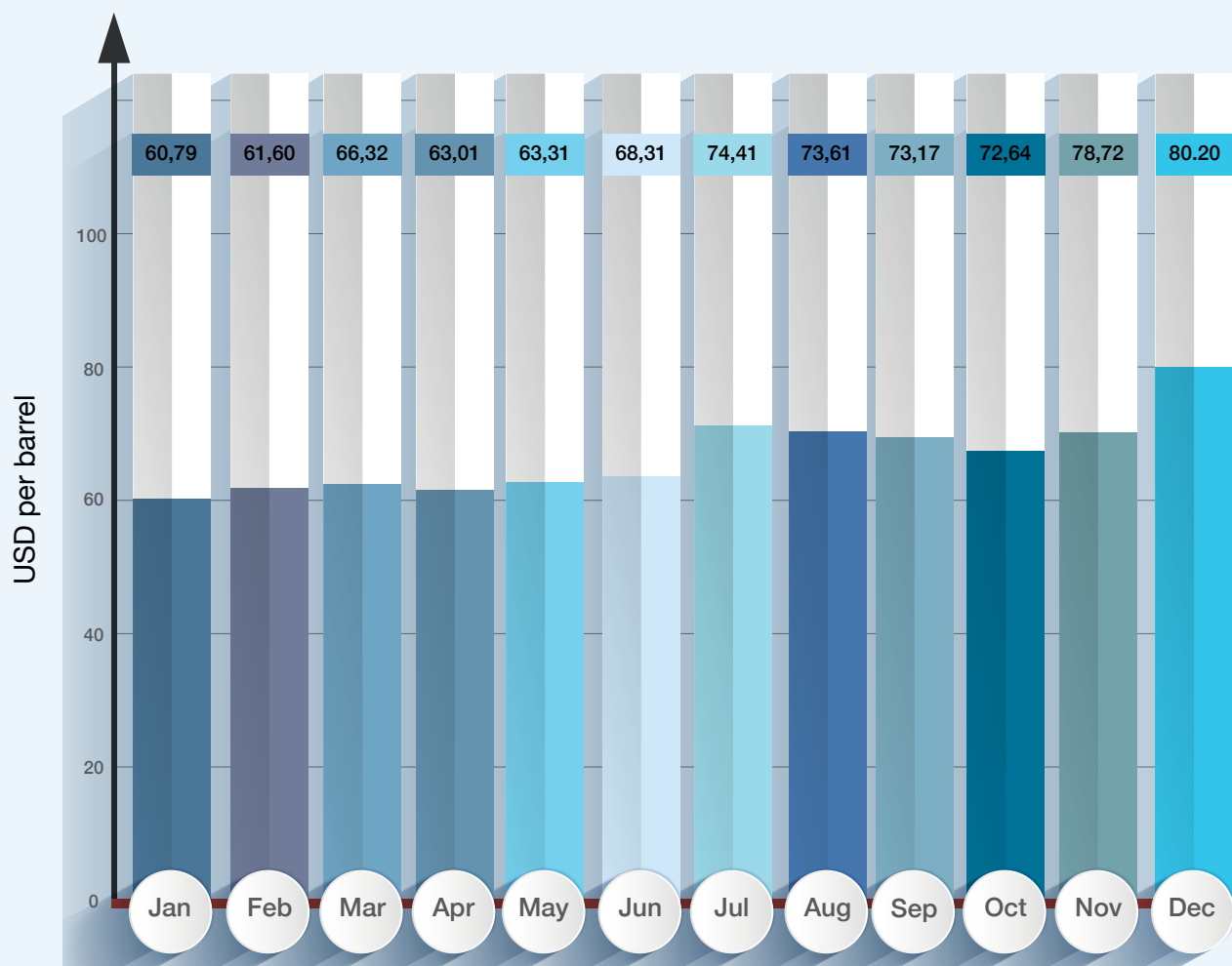
## 5. Price of Omani Crude Oil

In 2018, the average price of Omani crude oil reached USD 70 per barrel, up 35.8% against 2017. Omani crude oil prices averaged at a minimum of USD 60.79 per barrel in January and a maximum of USD 80.20 per barrel in December of the same year.

**Table (8): Monthly average of Oman crude oil price in 2018**

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
USD per barrel	60.79	61.60	66.32	63.01	63.31	68.31	74.41	73.61	73.17	72.64	78.72	80.20	<b>70</b>

**Monthly average of Oman crude oil price in 2018**



# 6. Refinery Industry

## Production

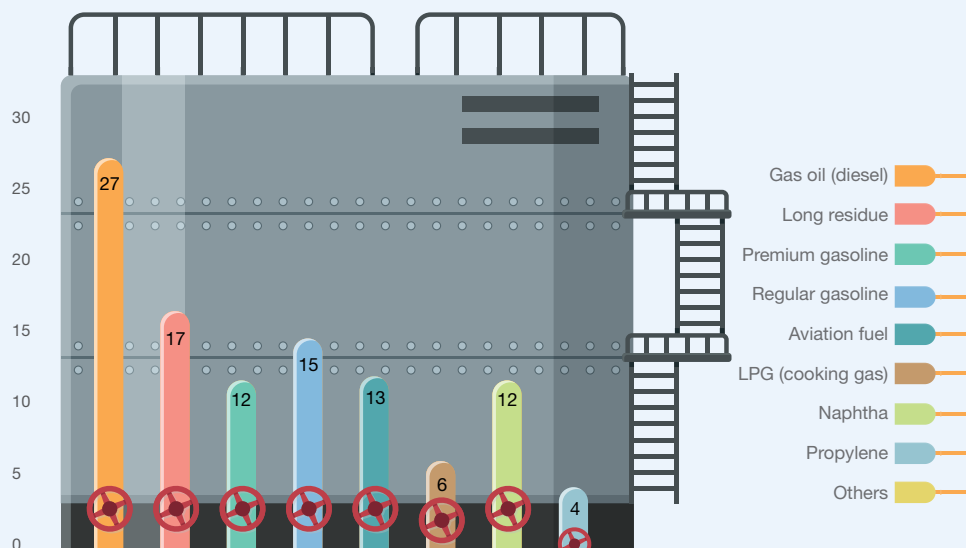
Total petroleum products output of Oman Oil Refineries and Petroleum Industries Company (ORPIC) reached about 113 million barrels. The contribution of Mina Al Fahal Refinery was 34 million barrels, and Sohar Refinery contribution was 79 million barrels. The production of gas oil (diesel) was about 24% of the total production of the two refineries of ORPIC in 2018.

**Table (9): Production of Oman Oil Refineries and Petroleum Industries Company**

Petroleum products	Quantity (Million Barrels)
Gas oil (diesel)	27
Long residue	17
Premium gasoline	12
Regular gasoline	15
Aviation fuel	13
LPG (cooking gas)	6
Naphtha	12
Propylene	4
Others*	7
<b>Total</b>	<b>113</b>

\*Includes: Pet coke, bitumen, fuel oil, solid sulphur, isomerate, raffinate

### Total production of Oman Oil Refineries and Petroleum Industries Company in 2018 (Million barrels)



## Domestic Sales of Petroleum Products

The total sales of petroleum products during 2018 is estimated to be 29 million barrels, of which 3 million barrels were sold by Mina Al Fahal Refinery, and 26 million barrels were sold by Sohar Refinery. ORPIC sales of naphtha represents 41% of the total domestic sales of petroleum products in 2018.

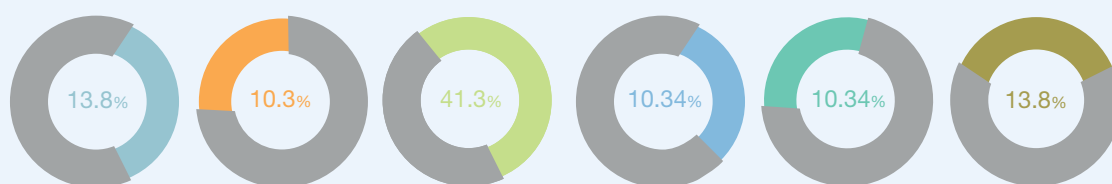
**Table (10): Domestic sales of petroleum products of Oman Oil Refineries & Petroleum Industries Company**

Petroleum products	Quantity (Million Barrels)
Propylene	4
Gas oil (diesel)	3
Naphtha	12
Regular gasoline	3
Premium gasoline	3
Others*	4
<b>Total</b>	<b>29</b>

\*Includes LPG, solid sulphur, aviation fuel, raffinate, bitumen

\*Does not include sales to MAF, Raysut Port and Jifnain Station

### Domestic sales of petroleum products of Oman Oil Refineries & Petroleum Industries Company



- Propylene ●
- Gas oil (diesel) ●
- Naphtha ●
- Regular gasoline ●
- Premium gasoline ●
- Others ●

## Export Quantities of Petroleum Products

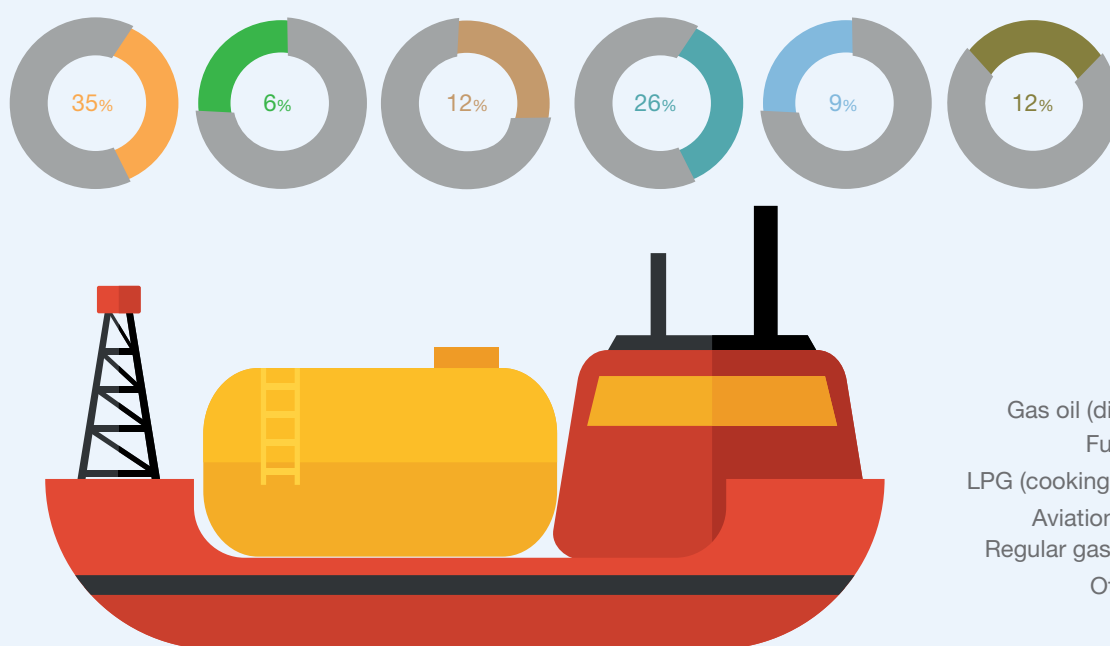
The total quantities of petroleum products exported during 2018 by Oman Oil Refineries & Petroleum Industries Company through Sohar Refinery is estimated to be 34 million barrels. Exports of gas oil (diesel) represented 35% of the total quantities of petroleum products exported in 2018.

**Table (11): Petroleum products exported by Oman Oil Refineries & Petroleum Industries Company in 2018**

Petroleum products	Quantity (Million Barrels)
Gas oil (diesel)	12
Fuel oil	2
LPG (cooking gas)	4
Aviation fuel	9
Regular gasoline	3
Others*	4
<b>Total</b>	<b>34</b>

\*Includes: Pet coke, isomerate, sulphur

### Exported quantities of petroleum products by Oman Oil Refineries & Petroleum Industries Company in 2018



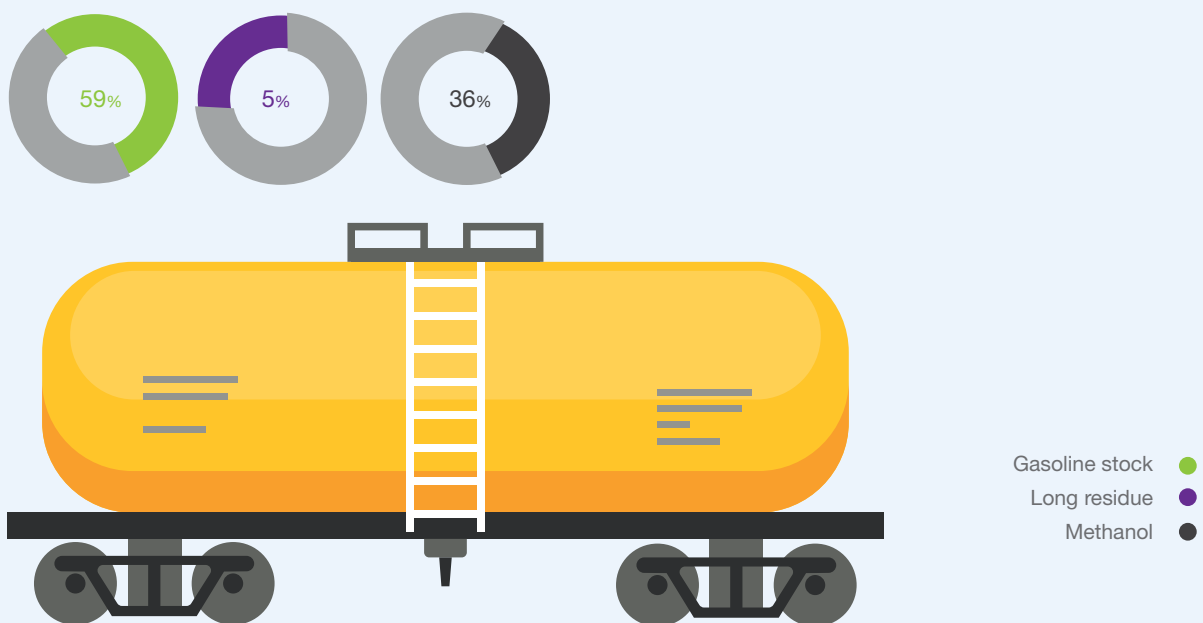
## Imported Quantities of Petroleum Products

The total quantities of petroleum products imported by Oman Oil Refineries & Petroleum Industries Company through Sohar Refinery during 2018 reached 6.1 million barrels.

**Table (12): Petroleum products imported by Oman Oil Refineries & Petroleum Industries Company in 2018**

Petroleum products	Quantity (Million Barrels)
Gasoline stock	2.2
Long residue	3.6
Methanol	0.3
<b>Total</b>	<b>6.1</b>

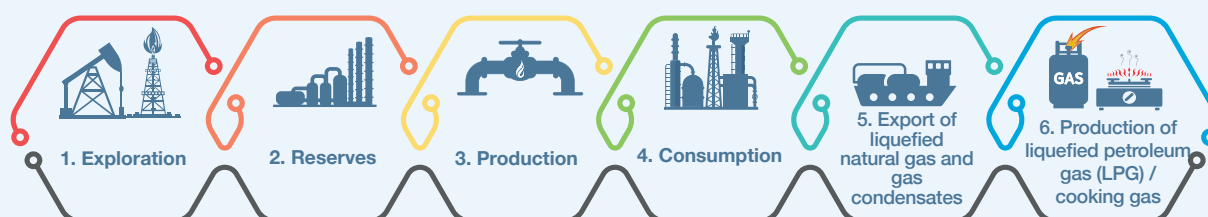
### Imported quantities of petroleum products by Oman Oil Refineries & Petroleum Industries Company in 2018







# GAS SECTOR



## 1. Exploration

The oil and gas companies operating in the concession areas in 2018 drilled, tested and evaluated 22 exploration and appraisal gas wells, 12 of which were drilled previously, but tested and evaluated in 2018. The analysis and productivity tests in some of the wells showed positive results, adding new gas reserves.

The following table indicates the number of gas exploration and appraisal wells of each company:

**Table (13): Gas exploration and appraisal wells in 2018**

Name of company (Block)	Number of wells
Petroleum Development Oman (6)	20
Occidental Oman (27)	2

## 2. Reserves

The total reserves of natural gas in the Sultanate at end of 2018 is estimated to be 25 trillion cubic feet, 54% of which is the estimated reserve of PDO, followed by BP Khazzan and Ghazeer with 41%, and 5% of other companies.

**Table (14): Estimated reserves of natural gas at the end of 2018**

Company	Expected Reserves (Trillion Cubic Feet)
Petroleum Development Oman	13.3
BP Oman (Khazzan)	6.6
BP Oman (Ghazeer)	3.6
Occidental Oman (Blocks 9, 27, 62)	0.7
Oman Oil Company Exploration & Production	0.4
Daleel Petroleum	0.08
DNO Oman	0.04
ARA Petroleum	0.01
<b>Total</b>	<b>25</b>

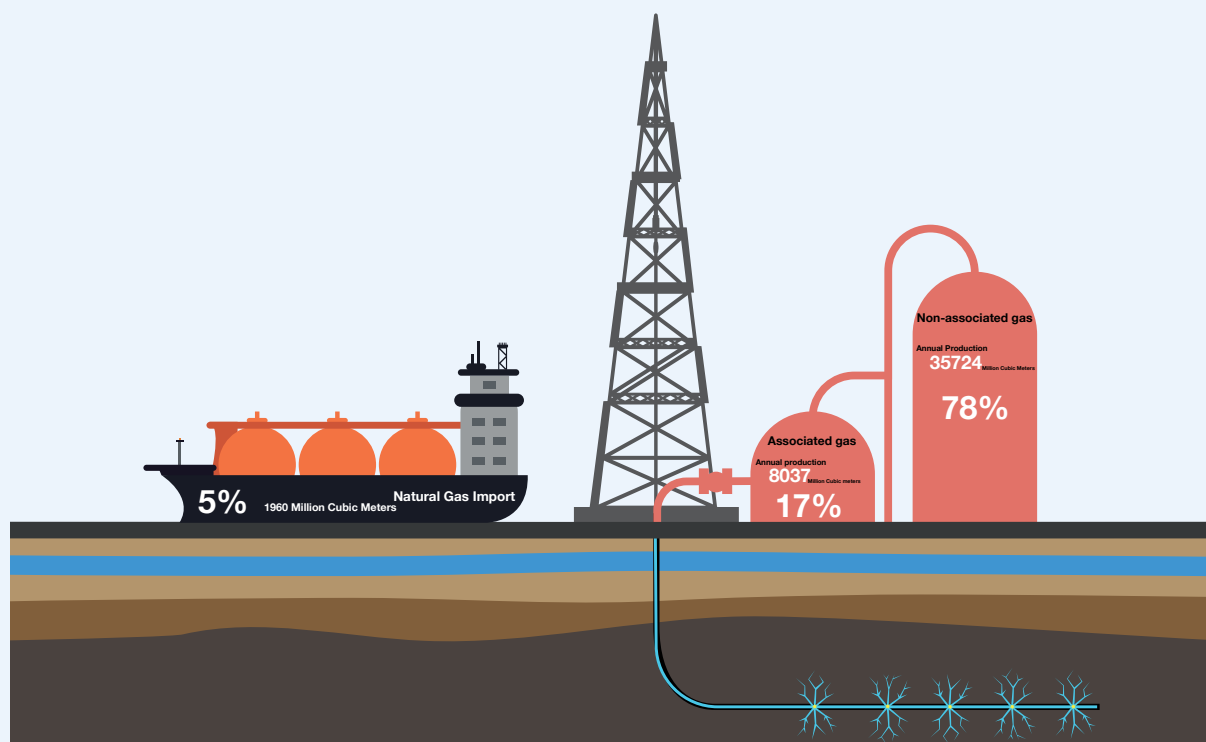
## 3. Production

The Sultanate's average production of natural gas during 2018 amounted to 119.9 million cubic metres per day, 18% of which was associated gas at an average of 22 million cubic metres per day. Non-associated gas constituted 82% of the total production at an average of 97.9 million cubic metres per day. In addition, natural gas was imported through Dolphin Energy Company at an average of 5.4 million cubic metres per day.

**Table (15): Natural gas production and import in 2018**

	Production (Million Cubic Metres)	Daily average (Million Cubic Metres)
Total associated gas	8037	22.0
Total non-associated gas	35724	97.9
Total production	43761	119.9
Total import through Dolphin Energy	1960	5.4
<b>Total production and import</b>	<b>45721</b>	<b>125</b>

**Amount and percentage of natural gas production and imports in 2018  
(Million Cubic Metres)**



## 4. Consumption

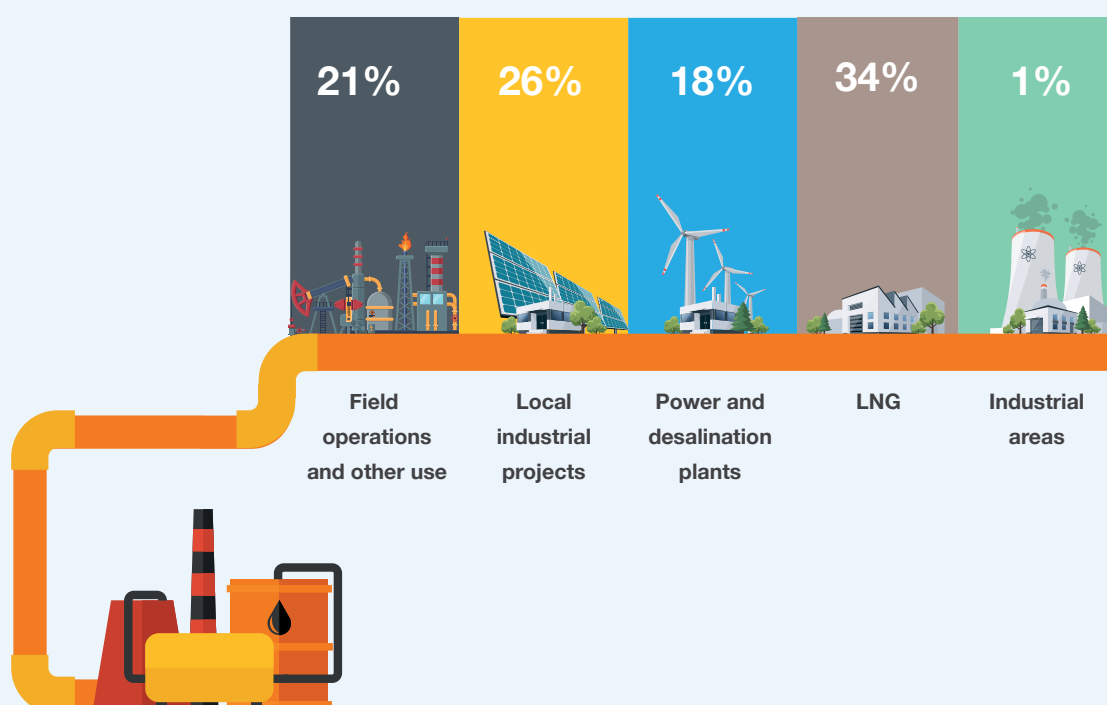
The total consumption of natural gas during 2018 reached 45720 Million cubic metres. Oman LNG and Qalhat LNG projects ranked highest in terms of natural gas consumption, accounting for about 15684 million cubic metres, or 34% of the total consumption in 2018. This was followed by local industrial projects, with 26% consumption, 21% for field operations and other uses, and 18% for power and desalination plants. Consumption at industrial areas constituted only 1% of the total consumption of natural gas in 2018.

**Table (16): Consumption of natural gas as per consumers in 2018**

Consumer	Quantity (Million Cubic Metres)
LNG*	15684
Local industrial projects	12056
Field operations and other use	9511
Power and desalination plants	8312
Industrial areas	157
<b>Total</b>	<b>45720</b>

\*Includes Oman LNG & Qalhat LNG

**Percentage of consumption of natural gas as per consumers in 2018**



## 5. Export of Liquefied Natural Gas and Gas Condensates

Total exports of LNG during 2018 amounted to 10.2 million metric tonnes in 162 shipments. The export of gas condensates were 0.239 million metric tonnes in 36 shipments. At the end of 2018, Oman LNG represented 68% of the total natural gas exports, while Qalhat LNG accounted for about 32% of the total.

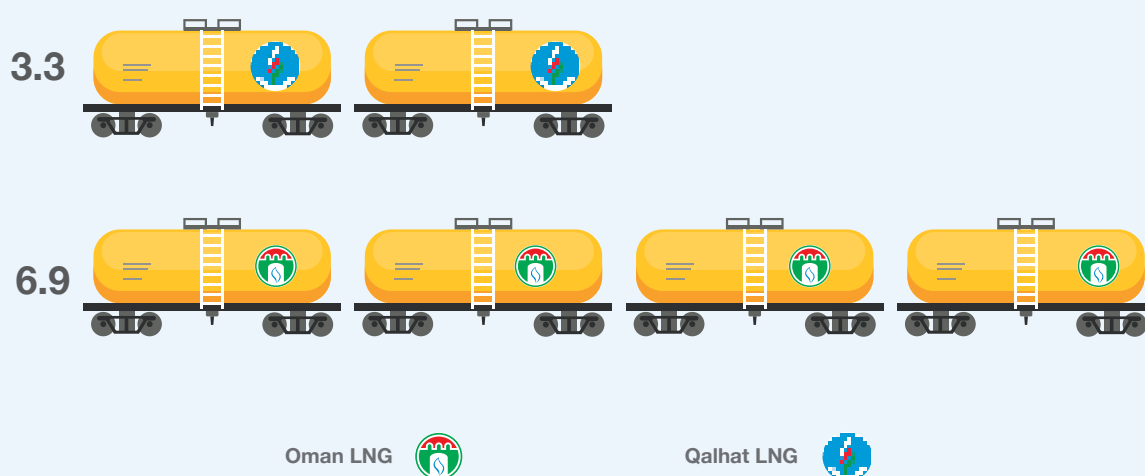
**Table (17): Exports of liquefied natural gas (Million Metric Tonnes)**

Details	Oman LNG	Qalhat LNG
Exports of liquefied natural gas (LNG) in million metric tonnes	6.9	3.3
Number of shipments	111	51

**Table (18): Exports of gas condensates (Million Metric Tonnes)**

Details	Oman LNG
Exports of gas condensates (NGL) in million metric tonnes	0.239
Number of shipments	36

**Exports of liquefied natural gas in 2018 (Million Metric Tonnes)**



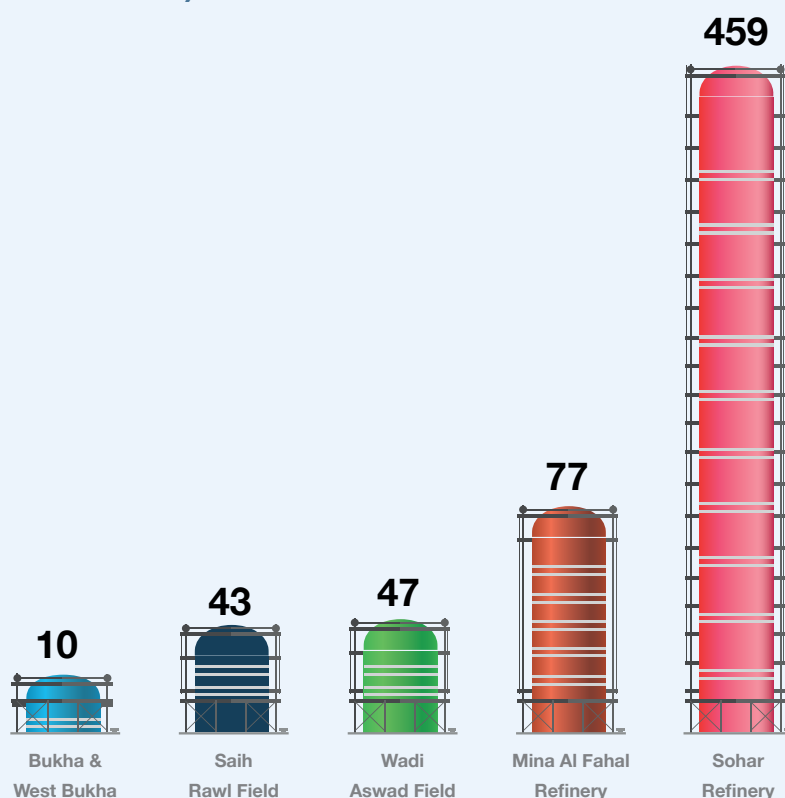
## 6. Production of Liquefied Petroleum Gas (LPG)

The total production of LPG during 2018 reached 636,000 metric tonnes. Quantities produced by Oman Oil Refineries and Petroleum Industries Company (Mina Al Fahal and Sohar) constituted 536,000 metric tonnes, i.e. 84% of the total LPG production, followed by 16% for the rest of the companies.

**Table (19): Production of liquefied petroleum gas by source & quantity**

Company	Source	Quantity (Thousand Metric Tonnes)
Oman Oil Refineries and Petroleum Industries Company	Sohar Refinery	459
	Mina Al Fahal Refinery	77
Petroleum Development Oman	Saih Rawl Field	43
Daleel Petroleum	Wadi Aswad Field	47
DNO Oman	Bukha & West Bukha	10
<b>Total</b>		<b>636</b>

**Production of liquefied petroleum gas (LNG) by source & quantity in 2018 (Thousand Metric Tonnes)**



# MAJOR PROJECTS IN THE OIL & GAS SECTOR

It is essential for the Ministry of Oil & Gas to retain the nation's position as an industry leader in the oil & gas sector; demonstrating the capacity to cope with new developments and ensure sustainable oil and gas production. Operators are, therefore, keen on field development and continuous improvement by adopting the latest technologies and initiating new projects, which ensure quality and maintain continuity of production. The following are the major oil and gas projects undertaken by operators:

## Petroleum Development Oman

The second phases of the Saih Nihayda (SNDC-2) and Kauther (KDC-2) depletion compression projects came on-stream safely in June 2018, months ahead of schedule. The projects were finished with minimal pre-start up audit (PSUA) findings and no Lost Time Injury (LTI) incidents, with around 7.5 million man-hours worked and more than 4.3 million kilometres driven without a road traffic accident.

There was good progress on PDO's two mega projects. Rabab Harweel Integrated Project (RHIP) was on track to come on-stream soon, well ahead of schedule and below budget, adding 500 million barrels of oil equivalent (BOE) to PDO reserves. The Yibal Khuff (YK) project achieved a key milestone with the delivery of export compression to the construction site, and remained on track to be brought on-stream by 2021.

As the company continued to focus more on renewable energy, PDO awarded the contract to build and operate the first solar photovoltaic independent power producer (IPP) project at Amin field to the Marubeni Consortium. The 100 MW project will be the first of its kind in Oman and also the world's first utility-scale solar project to have an oil and gas company as the sole wholesale buyer of electricity. The commercial operation date 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 cubic metres of gas annually, resulting in a total saving of USD 17 million a year through the use of solar power as an alternative to natural gas. It will also reduce overall carbon dioxide (CO<sub>2</sub>) emissions by around 137,121 tonnes annually, the equivalent of taking 23,000 large cars off the road.

## Occidental Oman

Oxy added about 120,000 barrels per day (bpd) of liquid handling capacity, 40,000 bpd of water injection capacity and 30 million standard cubic feet per day of gas compression capacity in 2018 in Blocks 9 and 27. Around 208 production wells in Block 53 were provided with permanent power to reduce operating expenses. Subsequent to the successful commissioning of the gas plant in the Maradi Huraymah field in Block 62 and the hook-up of 18 production wells in 2016, Occidental Oman hooked-up 3 additional wells in 2017, one well in 2018 and plans to hook-up additional wells in 2019.

## Daleel Petroleum

- The Daleel gas plant project contributed to the reduction of gas flare and harmful emissions, demonstrating the company's commitment towards the environment. The project was a result of the decision that Daleel had taken in order to evaluate options for better utilisation of surplus gas to meet environmental obligations and to maximise value from gas and liquid extraction.
- Daleel Petroleum conducted Enhanced Oil Recovery (EOR) screening studies for all fields to identify long-term development options and to unlock additional reserves. Currently, the company is executing two EOR trials along with several lab tests and intensive data gathering to ascertain the optimum development option.

### CC Energy Development

The company completed Engineering, Procurement, Construction and Start-up of the Ulfah Phase 2 Central Processing Facility with capacity for 11,000 barrels of oil per day. Ulfah Phase 3 will continue into 2019 and expand the Central Processing Facility to a capacity of 20,000 barrels of oil per day.

### BP Oman

With over a year since being on-stream, Khazzan delivered around 1 billion cubic feet of gas per day and 29,000 barrels per day of condensates, with the capacity to achieve more. The progress of Khazzan's second phase, Ghazeer project, was 45% at year-end with 16 wells drilled and a new national drilling time record achieved with 40.38 days for a Barik well.

### Oman LNG

Major projects continued to support Oman LNG's mission: To produce, market and deliver LNG safely, reliably and profitably. The projects are running ahead of schedule with the Readiness Plan 2018 that helped set Oman LNG up for maximum availability, at full-speed. In addition, the New Power Project had started Engineering, Procurement & Construction (EPC) efforts with the target to start operations in end-2020. The New Power Project will deliver increased energy efficient electricity needed for the LNG facility. In addition, Oman LNG is growing capacity through a debottlenecking project currently at design stage. Once completed, Oman LNG will add one million tonnes of LNG to the plant. Such initiatives will generate value for Oman at large, and benefit the company's In-Country Value efforts.

### Hydrocarbon Finder

- The company drilled a deep well in the Barik reservoirs in Sahmah field and discovered gas / condensate with a potential of multi-TCF of gas and tens of million barrels of condensates.
- The company commissioned and installed an Early Production Facility (EPF) and flare stack at the Sahmah production facility in Block 7.





## Oman Oil and ORPIC Group

- **Salalah Liquid Petroleum Gas (LPG)** is deemed to be the first of its kind in Oman and consists of the installation of a gas treatment plant to extract LPG and condensate from OGC's gas network. Salalah LPG will contribute to the strengthening of the national economy, as well as providing the Governorate of Dhofar's needs of LPG. The project is strategically located in the free zone of Salalah, adjacent to Salalah Port. Salalah LPG project will contribute to the creation of a new energy centre in Salalah. The production of LPG is characterized by a competitive economic value and high commercial value, which is witnessing increasing demand in the local and international markets. The project is located on an area of 28 hectares with high recovery of LPG: 99% Butane and 98% Propane, and in addition, the production of about 837 tons of LPG per day. Furthermore, about 28 ships will be received annually for export.
- **Duqm Refinery and Petrochemical Industries Company** is a Joint Venture (JV) between Oman Oil Company (OOC) and Kuwait Petroleum International (KPI). This strategic partnership between OOC and KPI has been established in the incorporation of Duqm Refinery, based in Al Duqm located in South East Al Wusta Governorate of the Sultanate of Oman. This gives the project a strategic maritime location and a competitive advantage being in the path of international shipping lines in the Indian Ocean and Arabian Sea. Once the refinery is completed, it will have the capacity to process around 230,000 barrels of crude oil per day. Diesel, jet fuel, naphtha and LPG are to be its primary products. Duqm Refinery's EPC scope of work was divided into three separate packages. The scope of EPC 1 included the process units of the Refinery, while EPC 2 consisted of the utilities and offsite facilities. EPC 3 included the product export terminal in Duqm Port, the Duqm Refinery dedicated crude storage tanks in Ras Markaz and the 80 km interconnecting pipeline from these crude tanks to Duqm Refinery.
- **Sohar Refinery Improvement Project (SRIP)** got Initial Acceptance in 2018, and the production increased by 70% (82,000 barrels per day). Furthermore, the project provided an additional 40% of the Aromatics Plant's naphtha requirements, with that 70% of the AR Naphtha requirements was met. It supplied additional propylene to the Polypropylene Plant, enabling it to operate at full capacity. This helps develop a sustainable economic driver in Sohar and create more job opportunities for Omanis for the long-term.
- **Liwa Plastics Industries Complex Project (LPIC)** achieved 84.4% overall progress by the end of 2018, the project achieved 65.7 million LTI-free man-hours, since the last LTI recorded in October 2017. In addition, 81.7 million man-hours were completed since the project's inception in January 2016.

# IN-COUNTRY VALUE

## 1. Localisation of industries and services

As part of the efforts of the Ministry of Oil & Gas to enhance the value retained in Oman in collaboration with companies operating in the oil & gas sector, the In-Country Value (ICV) programme contributed significantly in promoting local companies to be engaged in industries and services related to the oil & gas sector, and in increasing the sector's spends on purchases and contracts to locally registered suppliers.

The industry has also shown a continuous improvement in overall ICV delivery by reaching 40% ICV in its supply chain spend at the end of 2018, while maintaining a target increase of 2% year-on-year in overall ICV delivery. Furthermore, in its effort to localise products and services, the industry has so far localised 26 ICV opportunities out of 53 opportunities identified in the ICV Blueprint Strategy document. The total investment on these opportunities was around USD 160 million, with approximately 840 job opportunities created. In addition, more than 30 opportunities have been localised by operating companies outside the ICV Blueprint Strategy.

The industry continues to support the local market and local businesses through a Vendor Development Programme (VDP) for the purpose of developing local vendors in manufacturing or service provision to meet the industry's standards and requirements. A total of 11 opportunities have been awarded to local vendors since the start of the VDP in 2016. Moreover, certain scopes have been partially or fully ring-fenced for local companies. In 2018, a total of 30 scopes have been ring-fenced by the operating companies.

## 2. Human resources & training

The Ministry, in collaboration with operating companies, OPAL, and the Ministry of Manpower, has endeavoured to develop the local workforce through enhanced training programmes, and through organising the oil and gas labour market to suit the manpower requirements as per the international standards. This has led to the launch of seven National Occupation Standards for some skills required by the sector, as well as to the official launch of the joint recruitment portal, Petrojobs.om. The portal currently lists job requirements of the operating companies, and is intended to include job requirements for oil & gas contractors in the future.

**The joint recruitment portal (Petrojobs.om)** is one of the ICV programme outcomes that is supervised and managed by the Ministry of Oil & Gas in coordination with companies in the sector. This portal is a single-window for the registration of applicants seeking employment in the companies operating in the oil & gas sector, and is aimed at helping increase Omanisation by offer easier access for applicants who are interested in working in this vital sector.

The Ministry also established a call centre to provide technical support for applicants /



jobseekers facing any difficulties while registering or submitting their applications, as well as to respond to queries related to the portal. Since the inception of Petrojobs, more than 800 jobs were posted, covering a range of functions including, but not limited to, Engineering, Exploration, Finance, Production, Supply Chain, HSE, and IT.

**The National Occupational Standards (NOS)** are an ideal example of the cooperation between the Occupational Standards & Testing Centre of the Ministry of Manpower and the representatives of the various sectors in the Sultanate. For the purpose of developing these standards, technical workshops were organised with the participation of more than 165 experts in the targeted professions, and over 30 different company worksites visits were undertaken.

**As a result of such collaboration, seven national occupational standards have been developed, encompassing more than 400 units. These standards consist of the following:**

- Welding and Manufacturing Standard
- Occupational Safety and Health Standard
- Loading and Unloading Operations Standard
- Electrical and Mechanical Equipment Installation, Maintenance and Engineering Standard
- Building and Construction Maintenance Standard
- Mechanical Engineering Industries Standard
- Specialisation in Engineering Operations Management Standard

### **3. ICV Awards**

In cooperation with the companies operating in the oil and gas sector, the Ministry of Oil & Gas launched the first edition of the 'ICV Awards' at the Oil & Gas West Asia (OGWA) Exhibition & Conference 2018 for the purpose of recognising companies that have contributed significantly to the development and implementation of the ICV programme.

ICV Awards were presented for the first and second places in each of the following categories:

1. The Best Manufacturer ('Made in Oman')
2. The Best Omanisation
3. The Best Innovation
4. The Best SME



# CORPORATE SOCIAL RESPONSIBILITY (CSR)

In 2018, MOG initiated work on the Corporate Social Responsibility (CSR) framework for the oil & gas sector. A new team was formed for this purpose with representatives from the operating companies, who will develop a CSR strategy aiming to align the excellent efforts by the sector and highlight the Ministry's role in steering these efforts and contributions. The Working Group meets on a regular basis and reports to a Steering Committee, chaired by H.E the Undersecretary, Ministry of Oil & Gas. The CSR definitions and the role of the sector were addressed before detailed work on the strategy outline, framework and implementation plan.

The team has also agreed on three main themes and focus areas that will be considered during the selection process for joint CSR projects, which are:

1. Training & Employment Opportunities
2. Business & SME Development
3. Energy Management & Optimisation

In this context, several projects are being studied for potential sponsorships by the sector based on a set of criteria related to sustainability and alignment with Oman Vision 2040. The recommended projects will be presented to the Steering Committee during the first quarter of 2019. Moreover, information sharing will be enhanced by adding the CSR module to the AMS reporting and monitoring system being developed for the Ministry.

Meanwhile, the oil and gas sector continued its leading role on the CSR front, covering more fields and wider geographical areas. What follows is a summary of the companies and projects during 2018.

## **Petroleum Development Oman**

PDO continued its drive to deliver meaningful social investment programmes that create sustainable benefits to Omani society. In 2018, PDO spent more than USD 10 million covering more than 25 social investment projects in various fields, and started work on 36 new projects.

The highlights include a modern school in Dhahboon (Thumrait), a modern fish market in Ibri, several veterinary clinics (including a mobile clinic), several majlis and halls for the community, and continued its support of NGOs and volunteer teams along with some other efforts in this regard.

## **Occidental Oman**

Occidental Oman continued its sponsorship of various CSR projects in the areas of education, HSE, sports & culture, community aid, and entrepreneurship with a total spend of around USD 9 million. The main projects include funding of the Sustainable Energy Research Centre at SQU, providing training opportunities for 160 jobseekers and purchase of 300 headsets and 60 alarm kits for the hearing-impaired.

### **Daleel Petroleum**

Daleel Petroleum spent around USD 2.5 million on social investment projects. The main ones include a multi-purpose hall for Aswad School and aid devices for Oman Association for the Hearing Impaired.

### **CC Energy Development**

The company spent around USD 0.5 million on different social investment initiatives. The two main projects include supporting Ad'Dakhiliyah Science and Technology Centre and sponsorship of a fruits and vegetables market in Adam.

### **Oman LNG**

Oman LNG continued its CSR efforts through Oman LNG Development Foundation (ODF). In 2018, it has completed many key projects including the inauguration of Science and Robotics Labs in various governorates (Al Buraimi, Ad'Dhahira and Dhofar), which increased the number of labs to nine. Furthermore, it laid the foundation for three critical projects: National Autism Centre in Muscat, Autism Unit in Sur, and Isolation Ward at Sur General Hospital.

### **OOCEP**

OOCEP continued its efforts to serve society, and invested about USD 1 million in more than 42 projects. The most notable projects include, organising summer classes on 'Oil and Gas Sciences, from Exploration to Production' for 247 students and a workshop on Science of Nuclear Energy Technology for 30 teachers, to enhance knowledge on the topic.

### **Petrogas**

Petrogas spent around USD 142,000 on social investment projects, sponsoring 27 projects, including Oman Swimming Association, SQU Engineering Club, and in supporting SME development.



# 2018 Highlights

H.E Dr. Mohammed bin Hamad Al Rumhy, Minister of Oil & Gas, participated in the producers meeting comprising nations within and outside the Organisation of Petroleum Exporting Countries (OPEC), which was held in the capital of Austria, Vienna, on December 2018. H.E declared that the members of OPEC agreed on the necessity for the reduction of oil production.

Takatuf-Petrofac Oman Institute was opened in 2018 at the Knowledge Oasis Muscat under the patronage of H.E Dr. Mohammed bin Hamad Al Rumhy, Minister of Oil & Gas. It is a state-of-the-art institute that offers internationally accredited vocational training programmes designed to contribute to enhancing the capacity of the current and future workforce to support the energy and utility sectors. It was set up at a costs of about OMR 12.4 million.

The Gas and LNG Summit was opened under the patronage of H.E Dr. Mohammed bin Hamad Al Rumhy, Minister of Oil & Gas, on 29 October 2018 with the attendance of senior officials, executives and experts from the global gas industry. The summit included workshops and meetings which provided an opportunity for government representatives, decision-makers and industry professionals to share knowledge and discuss the best ways to manage challenges.

The National Young Professionals Committee (NYP) was launched on 17 October 2018 for the purpose of transferring knowledge and experience between the older and younger generations, focusing on professionals aged between 25 and 35 years working in the oil & gas sector. The Committee will represent the Sultanate at the World Petroleum Council (WPC) through participation in its local, regional and international events.



The joint employment portal, Petrojobs.om for the oil & gas sector was officially launched on 23 September 2018. It is one of the ICV programme outcomes, and is supervised by the Ministry of Oil & Gas in coordination with the companies in the sector.

Oman Oil & Gas Institute was inaugurated on 18 March 2018. This Institute focuses on training and qualifying engineers and geologists, and providing them with the necessary skills to develop and sustain the Sultanate's oil and gas resources

The first package of the first National Occupational Standards (NOS) related to the oil & gas sector was launched on 17 September 2018 for standardising the concepts of NOS and occupational efficiency tests in the Omani labour market.

A Royal Decree was issued for assigning to the Ministry of Oil & Gas the implementation of the state's general policy on the energy sector, and to transfer to the Ministry of Oil & Gas all powers and prerogatives assigned/allocated to the Public Authority for Electricity and Water (PAEW) associated with the electricity sector, and to transfer to the Ministry of Oil & Gas all records, allocations and assets related to the electricity sector. The Decree also transfers to the Ministry of Oil & Gas the electricity sector-related departments and employees, along with their existing job positions and financial grades. The process of transfer will be implemented in accordance with the mechanism to be agreed by the Ministry of Oil & Gas and the Chairman of the Public Authority for Electricity and Water.