

# Upstream Investment in the Middle East: Challenges and Opportunities in Lower Price Environment

Bassam Fattouh

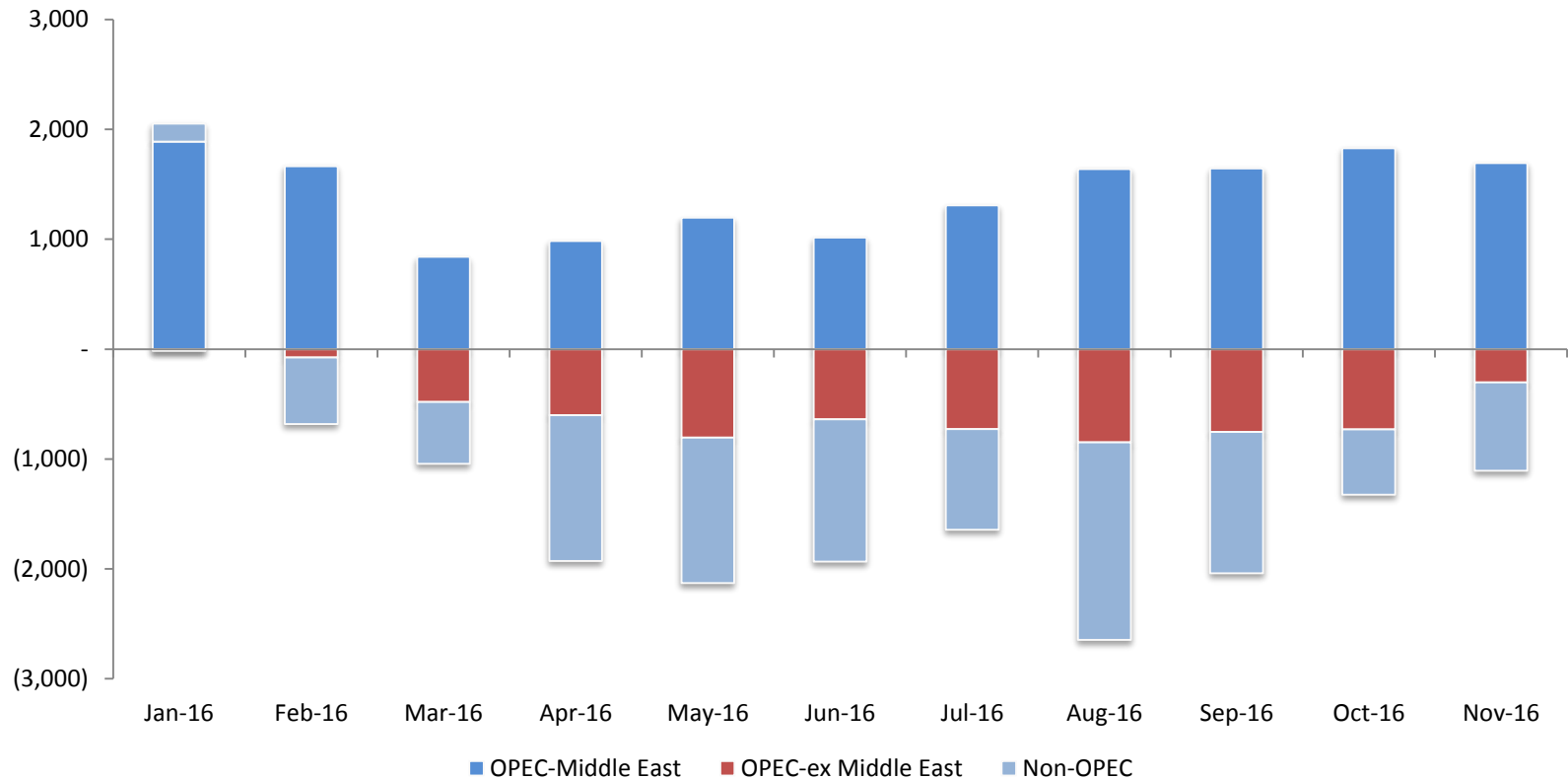
Oxford Institute for Energy Studies



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# Middle East OPEC has been major source of supply growth in 2016

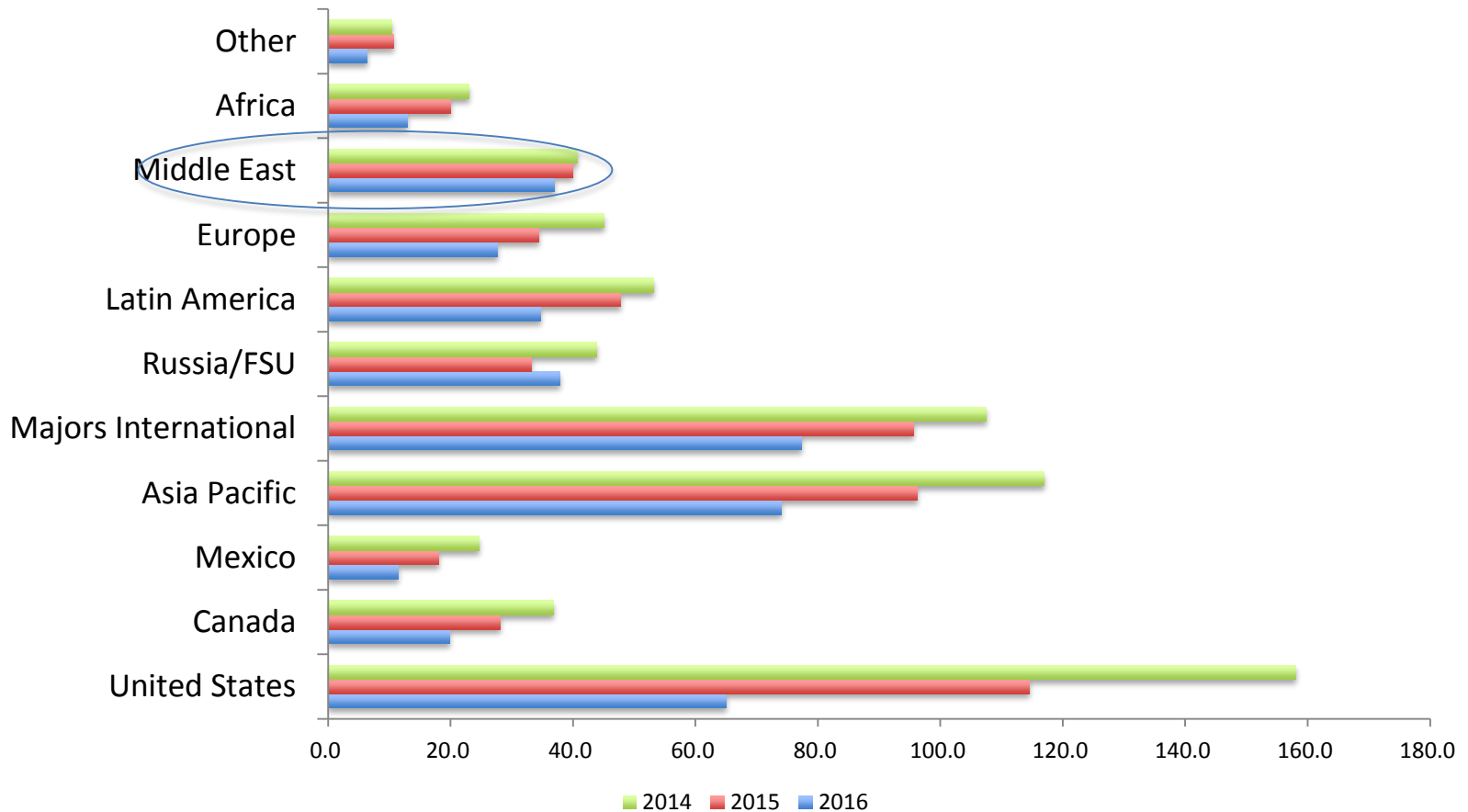
## OPEC-Middle East Output, y/y change, thousand b/d



In 2016, Middle East OPEC contributed most of the global supply growth offsetting the supply declines in the rest of OPEC and non-OPEC

# Middle East one of the few regions in the world where investment in oil upstream did not decline sharply

## Global Capex, Billion US\$



Between 2014 and 2016, capex in the Middle East declined marginally in nominal terms; given the cost deflation in the supply chain, this small reduction did not translate into a fall in activity as reflected in the increase in the number of rigs

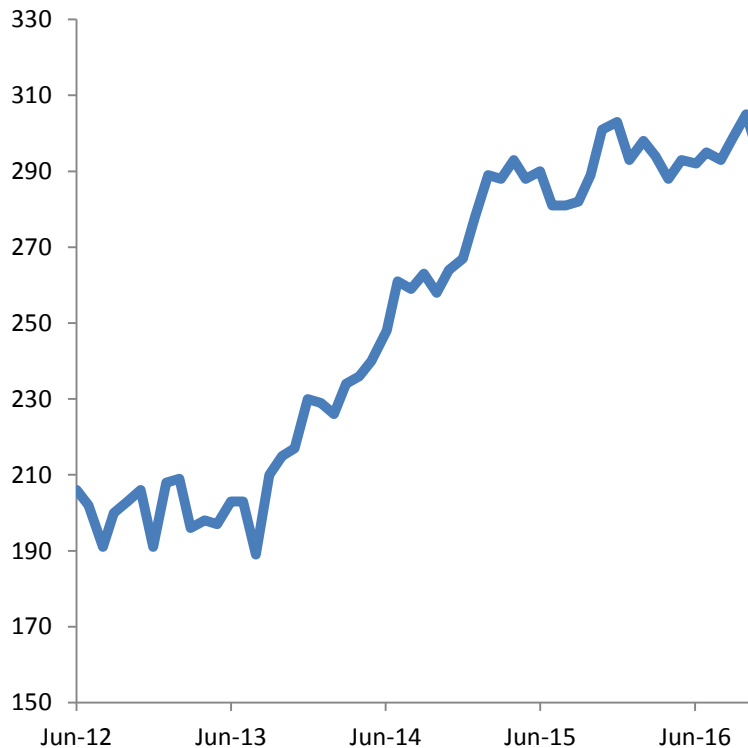
# Most Middle East NOCs continued growing spending

## Middle East E&P Spending, million of US\$

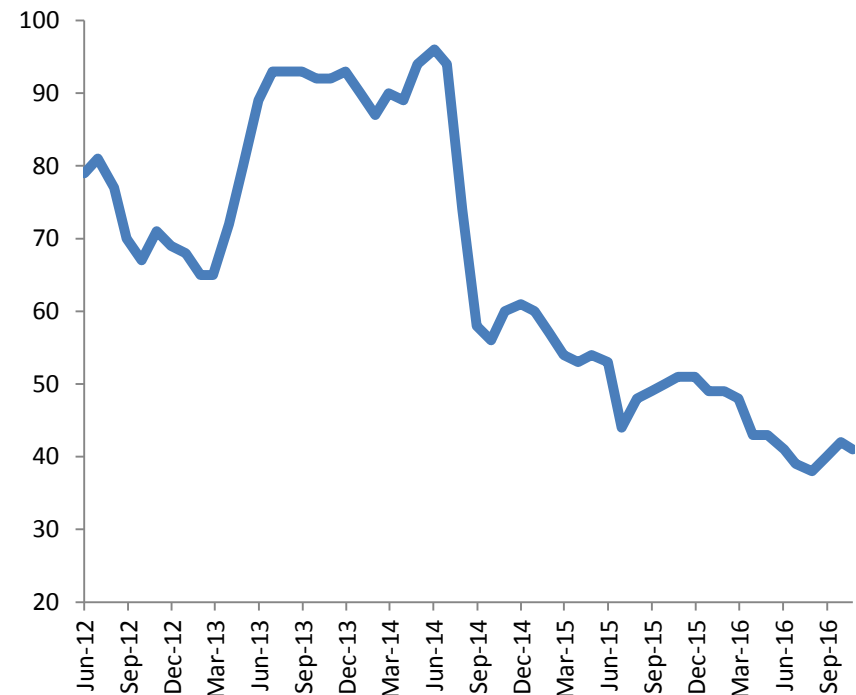
	2015A	2016E	2017E	'15-'16%	'16-'17%
<b>Saudi Aramco</b>	17,280	18,058	18,780	4%	4%
<b>National Iranian Oil Company</b>	10,583	14,817	15,710	40%	6%
<b>Abu Dhabi National Oil Co. (ADNOC)</b>	8,330	8,000	7,200	-4%	-10%
<b>Kuwait Oil Company</b>	5,750	6,000	6,420	4%	7%
<b>Petroleum Development of Oman (PDO)</b>	5,000	5,500	5,775	10%	5%
<b>South Oil Company</b>	3,849	2,683	2,282	-30%	-15%
<b>Qatar Petroleum Company</b>	1,650	1,650	1,815	0%	10%
<b>Missan Oil Company</b>	380	360	360	-5%	0%

# A tale of two regions: GCC and the rest

## GCC Rig Count



## Iraq Rig Count



In the GCC, the rig count continued to rise even as oil prices declined with rig count reaching record levels in 2016

In contrast, the rig count in Iraq more than halved from its peak in June 2014 as government finances deteriorated and government cut spending

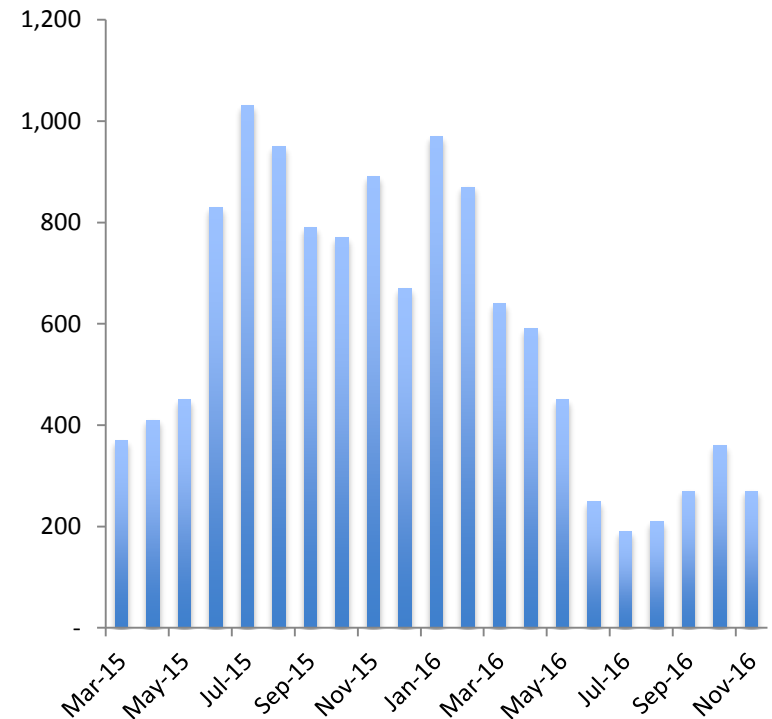
# In Iraq, deep cuts in investments affecting output growth

## Amended Plateau Rates, mb/d

Field	Plateau rate, million b/d (contracted)	Plateau rate, million b/d (Amended)	Reduction
Rumaila	2.85	2.10	0.75
Zubair	1.20	0.85	0.35
West Qurna-1	2.83	1.60	1.23
West Qurna-2	1.80	1.20	0.60
Majnoon	1.80	1.00	0.80
Halfaya	0.54	0.40	0.14
	11.01	7.15	3.86

Iraqi government forced to revise downwards its long-term production target, negotiating with oil companies for new plateaus of production

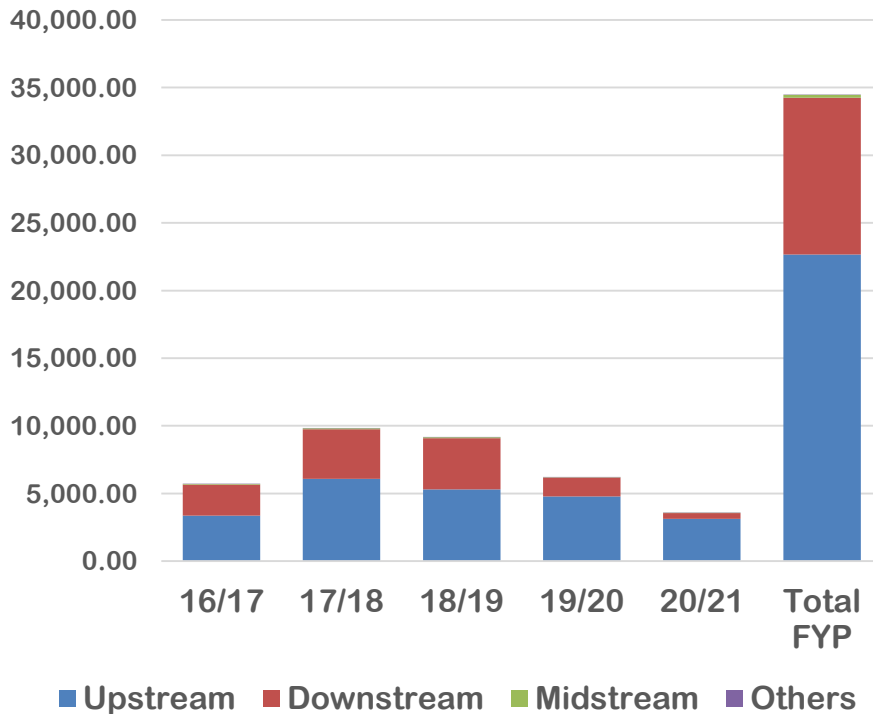
## Year-on-Year Growth in Iraqi Output, Thousand b/d



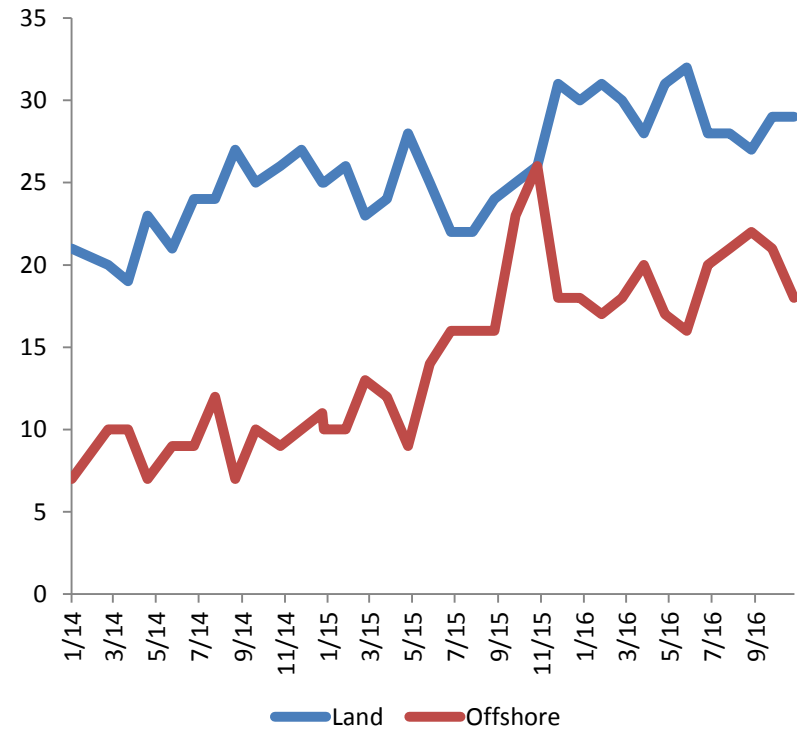
After massive gains in 2015, output growth started to slow down in the second half of 2016

# But in the GCC ambitious plans to expand capacity

**Expenditure during the upcoming Five years, thousand KD**



**Rig Count, Land and Offshore**

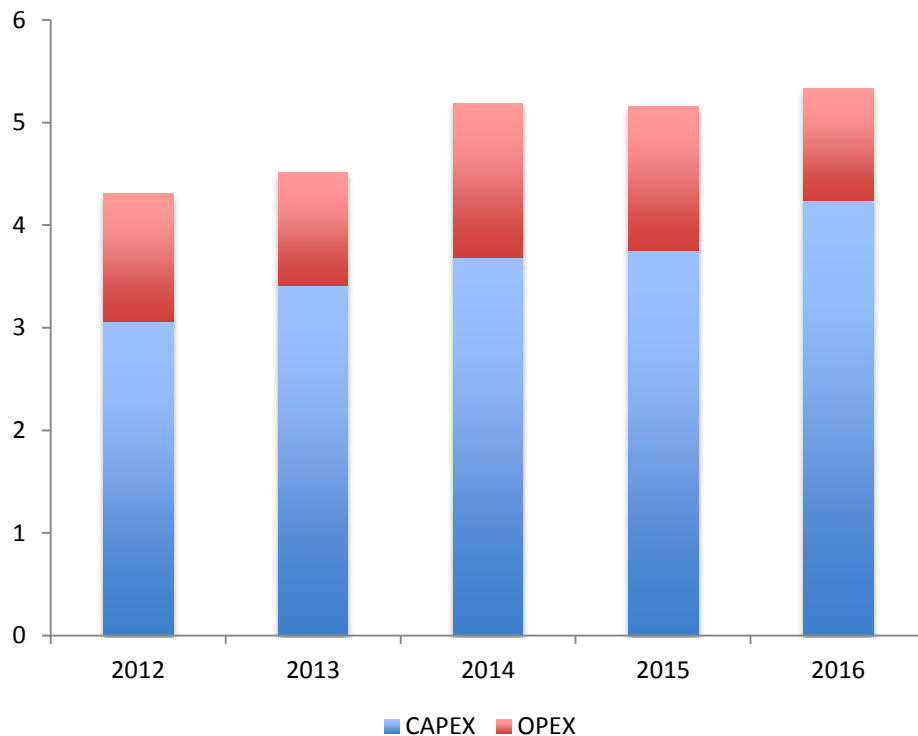


In Kuwait an ambitious plan to expand capacity to 4 mb/d by 2020 with total expenditure on the energy sector for the next five years projected to amount to 34.5 Billion KD (112 Billion US\$)

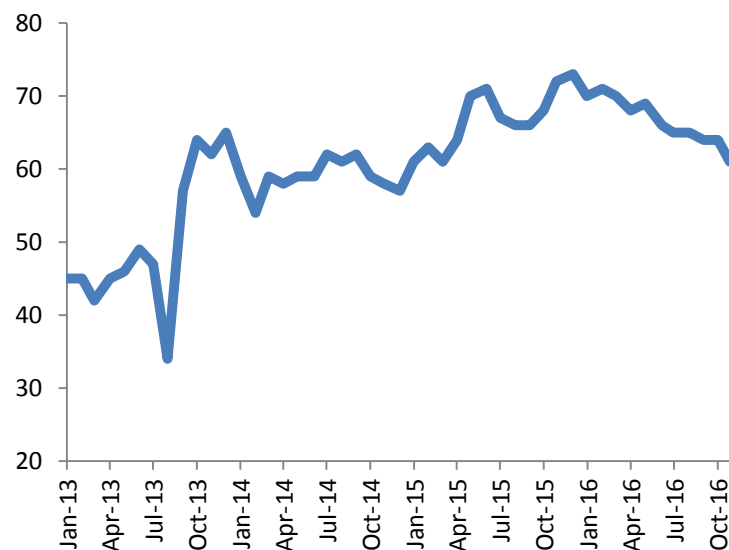
In Abu Dhabi, a very ambitious plan to boost crude output capacity to 3.5mn b/d by 2018 with offshore fields contributing most of the output growth

# Even in countries with challenging fiscal position such as Oman did not stop investment

## Upstream Spending in Oman (\$BN)



## Rig Count



Oman is on track for a new record of investment in its oil and gas sector in 2016

The rig count in Oman has risen sharply since 2013 reaching a peak of 73 in December 2015 before falling in 2016 but still at high levels



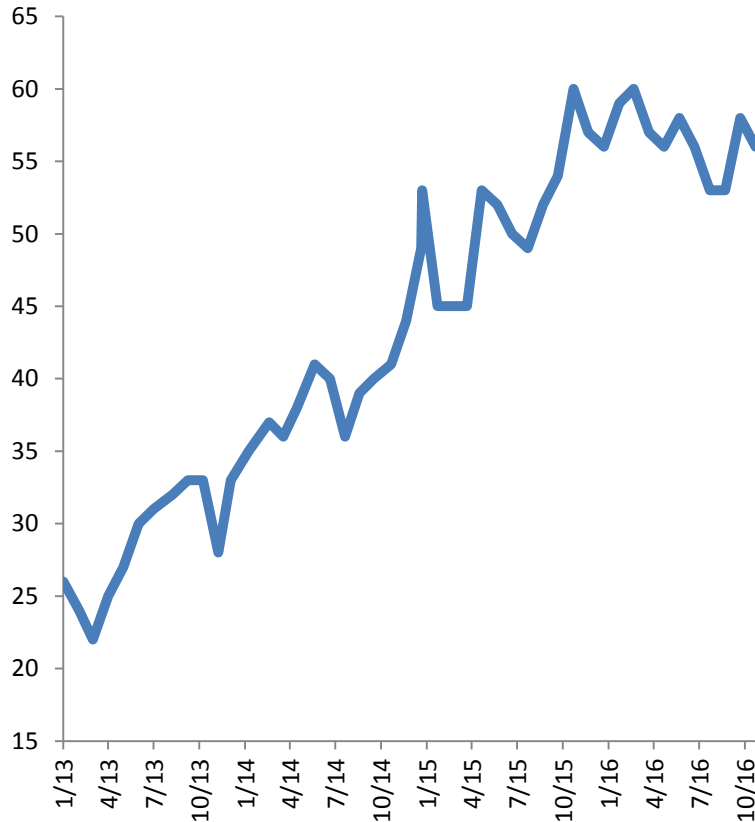
## Saudi Arabia on track to bring more big fields online

Project	Type	Capacity	Start date
<b>In production</b>			
Manifa Phase 1	Medium	500	2013
Manifa Phase 1	NGL	65	2013
Manifa Phase 2	Medium	400	2014
Manifa Phase 2	Condensate	65	2014
<b>Under development</b>			
Shaybah expansion	Light	250	2016
Khurais expansion	Light	300	2018
Khurais expansion	NGL	34	2018

Saudi Arabia regularly brings on fields to relieve pressure and output from mature fields, and to maintain production plateaus for longer, thereby optimising the utilisation of reserve base and allowing them to maintain output at higher sustainable level

# Development of gas reserves key priority for Saudi Arabia

## Saudi Gas Rig Count



The Saudi gas rig count has been on the rise and this is not likely to change as the kingdom has ambitious plans to increase the share of gas in the energy mix

Source: Baker Hughes, various sources.

## New Non-Associated Offshore Gas Fields

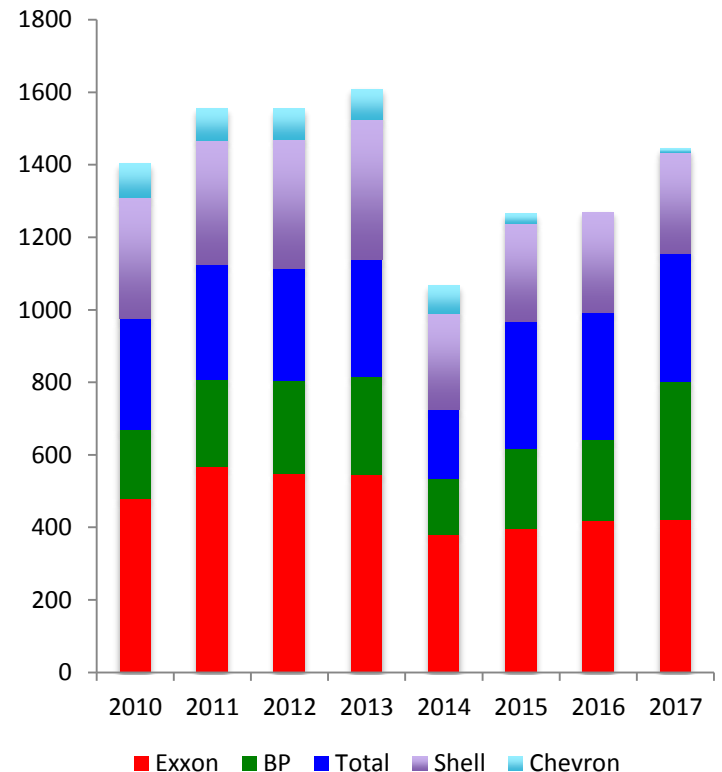
Field	bn cfd	Start Date
Karan	1.2	2012
Hasbah	1.3	Commissioned
Arabiyah	1.2	Commissioned
Midyan	0.75	2016
<i>Expansion of the MGS</i>	<i>Plant Capacity</i>	<i>Sources of Gas</i>
Midyan	0.75 bcf non-Associated	Midyan (Red Sea)
Wasit	2.5 bcf non-associated	Arabiyah and Hasbah (Phase 1)
Fadhili	2.5 bcf non-associated	Hasbah (Phase 2, increase to 2 bcf) and Khursaniyah

Focus not only on increasing production of associated gas but also non-associated gas mainly from offshore; higher cost but allows for more flexibility in oil output

# IOCs' strategies differ in Middle East: some focusing on chasing low cost barrels-large reserve bases

- **Total:**
  - Renewal of its Abu Dhabi's Adco Concession
  - Invest in the 300,000 b/d Qatar's Al-Shaheen offshore field
  - Signed HOAs in Iran
  - But doubtful about expansion in Iraq in this current environment
- **BP:**
  - Signed up to a 10% stake in Abu Dhabi's onshore Adco concession in return of new shares representing approximately 2% of BP's issued share capital...to be held on behalf of the Abu Dhabi Government'
  - High interest in Iran but opted out of the first wave of Iranian agreements
- **Shell**
  - Considering selling its Iraqi oil assets
  - Shell Signs Preliminary Iran Oil Deal
- **ExxonMobil** not renewing its share in ADCO
- **Chevron** output in the Middle East falls to zero with the shut in Neutral Zone

**Liquid Output in the Gulf By Company  
Thousand b/d**



# Iran: the big prize? But not for everyone

## Contracts Awarded, HOAs, and MOUs

Operator	Partners	Field	Date	Type
Lukoil	None	Ab Teymour / Mansouri	24 Jan	MoU for study
Total	None	South Azadegan	24 Mar	MoU for study
Wintershall	None	Four fields in western Iran	12 Apr	MoU for study
OMV	None	Zagros area	4 May	MoU for study
Zarubezhneft	None	Aban / Paydar Gharb	13 Jul	MoU for study
Persia Oil and Gas	None	North Yaran Phase 2	4 Oct	IPC
Persia Oil and Gas	None	Koupal EOR	4 Oct	IPC
Persia Oil and Gas	None	Maran EOR	4 Oct	IPC
Tatneft	None	Dehloran	8 Oct	MoU for study
PGNiG	None	Sumar	6 Nov	MoU for study
Total (50.1%)	CNPC (30%), Petropars (19.9%)	South Pars Phase 11	8 Nov	Heads of Agreement
DNO	None	Changuleh	16 Nov	MoU for study
Pergas consortium	None	Shadegan / Rag-e Sefid	23 Nov	MoU for study
Schlumberger	None	Shadegan / Rag-e Sefid / Parsi	27 Nov	MoU for study
PTTEP	None	Changuleh / Balal / Dalamperi	6 Dec	MoU for study
Shell	None	South Azadegan / Yadavaran / Kish gas	7 Dec	MoU for study
Gazprom Neft	None	Changuleh / Cheshmeh Khosh	13 Dec	MoU for study

Progress has been slow and despite the flurry of deals announced, these are still very preliminary; without foreign investment and technology, Iran's upside potential from current production level is limited

# Conclusions

- Investment in the upstream oil and sector in the Middle East declined but only marginally (and in nominal terms) with many countries still on track to achieve their ambitious plans of increasing productive capacity (though some delays are possible in some countries)
- But this is a tale of two regions: GCC countries continue to invest and increase productive capacity while Iraq suffering from lower investment (especially in much needed large infrastructure) and reduced activity
- IOCs strategies in the Middle East differ fundamentally from each other with few seeing the exposure to its large reserve base and low cost barrels as a fundamental part of their strategy in a more uncertain world
- The opening of Iran will offer opportunities for IOCs to increase their exposure to a large reserve base but given the risks involved, such opportunities will be captured by those companies which have the patience and better capability to manage the risks
- During this downturn, the core GCC OPEC producers consolidated their position by continuing to invest and hence will benefit the most from the upturn in the market; the rest of OPEC and most of the non-OPEC will have to play catch up