

# Day Break

Thursday, 18 April 2019

## Sector Update

### E&P Reserves Data as at Dec-18

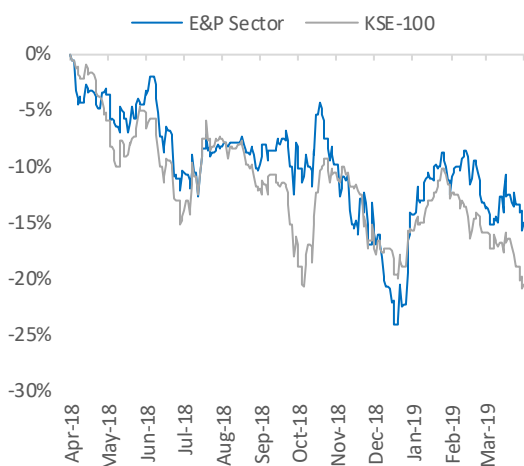
#### Oil Reserves as at Dec-18

mnbbls	Dec-18	Jun-18	% change	Jun-17
OGDC	113.2	149.4	-24%	158.7
PPL	40.2	56.8	-29%	64.1
POL	46.5	47.9	-3%	20.5
MARI	1.2	1.0	18%	1.3
Total	282.2	347.9	-19%	332.2

#### Gas Reserves as at Dec-18

bcf	Dec-18	Jun-18	% change	Jun-17
OGDC	7,993	6,021	33%	6,351
PPL	2,891	2,862	1%	3,541
POL	437	419	4%	230
MARI	5,126	4,956	3%	5,209
Total	21,896	19,542	12%	20,794

### Relative Performance to KSE 100



Source: Bloomberg, PSX & IGI Research

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## Oil & Gas Exploration Companies

### Pakistan Oil reserves down by 19% while gas reserves ramp up by +12% at Dec-18; Nashpa revised down by 55%, Uch upgraded by +76%

- As per latest data published by Pakistan Petroleum Information Service (PPIS), Pakistan's total oil gas reserves are down by 19% to 282mnbbls as at Dec-18 compared to 348mnbbls at Jun-18. Gas reserves are up by +12% to 21.90tcf as at Dec-18 compared to 19.54tcf at Jun-18.
- Nashpa oil field's reserve has been revised down by +55% to 57mnbbls as at Dec-18, which is the largest oil field in Pakistan. Mela oil field reserves have been revised upwards by +6.0x to 21mnbbls as at Dec-18 which is located close to Nashpa field,
- Uch and Qadirpur gas field reserves have been revised upwards by +76% and +10% to 3.4tcf and 1.2tcf respectively. Mari gas field reserves are up by +4% to 5.1tcf as at Dec-18 compared to 4.9tcf as at Jun-18. Tal block oil reserves are down by 9% to 28mnbbls as at Dec-18 while gas reserves are up by +22% to 0.68tcf,
- MARI and PPL remain our top picks among IGI E&P Universe with our Dec-19 target prices of PKR 1,840.46/share and PKR 224.64/share offering +54% and +28% upside respectively, from last close. PPL and MARI are trading at FY19F P/E of 6.3x and 6.5x respectively.

### Pakistan Oil reserves down by 19% while gas reserves are up by +12% as at Dec-18

As per latest data published by Pakistan Petroleum Information Service (PPIS), Pakistan's total oil gas reserves are down by 19% to 282mnbbls as at Dec-18 compared to 348mnbbls at Jun-18. Gas reserves are up by +12% to 21.90tcf as at Dec-18 compared to 19.54tcf at Jun-18.

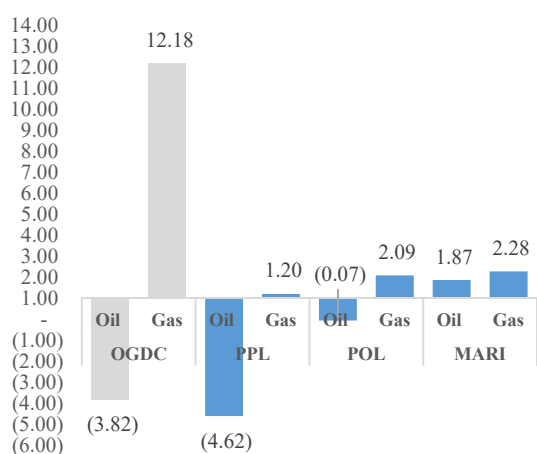
### Major revision in reserves during 1HFY19 included:

- Nashpa oil reserves revised down by 55% to 57mnbbls:** Nashpa oil field's reserve has been revised down by +55% to 57mnbbls as at Dec-18, which is the largest oil field in Pakistan. Pakistan Petroleum Limited (PPL) holds 28% stake while Oil & Gas Development Company Limited (OGDC) holds 57% stake along with being the operator of the block. We await further clarity from the management to assess the reason behind such a steep revision. Based on the revision, we estimate Nashpa fields reserve life to come down to 8.2yrs from previous 18.3yrs.
- Mela oil reserves revised upwards by +6.0x as at Dec-18:** Mela oil field reserves have been revised upwards by +6.0x to 21mnbbls as at Dec-18 which is located close to Nashpa field. We believe the reason behind increase in reserve base is on the back of development project undertaken by the OGDC. OGDC holds 57% stake while PPL holds 28% stake in the field. As a result, Mela oil field reserve life has increased to 35.6yrs from 6.0yrs previously.
- Pasakhi/Pasakhi NE Reserves revised upwards while Kunar revised down:** Pasakhi/Pasakhi NE oil reserves have been revised upwards by +2.7x to 12mn bbls as at Dec-18 while Kunar reserves have been revised down by 33% to 7mnbbls. OGDC holds 100% stake in the field. Pasakhi/Pasakhi NE and Kunar contribute nearly 11% and 7% respectively to total oil reserves.
- Uch and Qadirpur reserves up by 76% and 10% as at Dec-18:** Uch and Qadirpur gas field reserves have been revised upwards by +76% and +10% to 3.4tcf and 1.2tcf respectively. OGDC holds 100% stake in Uch while OGDC and PPL hold 57% and 28% stake in Qadirpur respectively. This brings Uch and Qadirpur reserve life to 25.5yrs and 11.8yrs respectively.
- Sui gas and Adhi oil reserves down in line with 1HFY19 production:** Sui gas reserves are down by 6% to 1.21tcf and Adhi oil reserves are down by 10% to 17mnbbls. PPL holds 100% stake in Sui while OGDC, PPL and POL hold 50%, 39% and 11% stake in Adhi respectively.

- Mari gas field reserves up by +4%:** Mari gas field reserves are up by +4% to 5.1tcf as at Dec-18 compared to 4.9tcf as at Jun-18. The increase in reserves is primarily attributable to addition of Bhitai, Tipu, Shahbaz and Shaheen reserves cumulatively adding 0.27tcf. Mari Petroleum Company Limited (MARI) hold 100% stake in the field. This brings Mari field reserve life to 19yrs from previous 18.4yrs.
- Tal block oil reserves down to 28mnbbbls and gas reserves up to 0.68tcf:** Tal block oil reserves are down by 9% to 28mnbbbls as at Dec-18 while gas reserves are up by +22% to 0.68tcf. Decline in oil reserves is attributable to 29% drop in Makori East reserves while increase in gas reserves is owed to 41% and 35% upward revision in Makori East and Maramzai reserves respectively. Thus Tal block oil reserve life is down to 3.4yrs while gas reserve life is up to 5.3yrs.

Exhibit:

**Reserve Replacement Ratio (RRR) for 1HFY19**



Source: PPIS, IGI Research

**POL oil reserves down by 3% and gas reserves up by +4% as at Dec-18**

POL's oil reserves are reported at 46.53mnbbbls down by 3% while gas reserves are recorded at 0.44tcf, up by +4% as at Dec-18, compared to 47.90mnbbbls and 0.42tcf at Jun-18. The decline in gas reserves is primarily attributable to natural depletion in line with production of 1HFY19 while gas reserves are up owing to upward revision in Makori East and Maramzai, up by +41% and +35% respectively. This brings POL's estimated reserves life to 17.8yrs for oil and 13.5yrs for gas (total reserve life of 14.8yrs).

**OGDC oil reserves down by 24% and gas reserves up by +33% as at Dec-18**

OGDC's oil reserves are reported at 113.21mnbbbls down by 24% while gas reserves are recorded at 8.0tcf, up by +33% as at Dec-18, compared to 149.40mnbbbls and 6.02tcf at Jun-18. The decline in oil reserves is primarily attributable to 55%, 33% and 10% drop in Nashpa, Kunar and Adhi reserves which accounts for 29%, 7% and 7% of total oil reserves for OGDC. This drop in oil reserves is despite increase in Mela reserves by +6.0x and inclusion of Britism West, Chabaro, Gundanwari and Thal West cumulatively adding 0.88mnbbbls. Gas reserves are up substantially by 33% on the back of 76% and 10% incline in Uch and Qadirpur reserves which contribute nearly 42% and 11% to total gas reserves. This brings OGDC's estimated reserves life to 7.4yrs for oil (down 23%) and 18.99yrs for gas (up by +42%) with total reserve life of 17.0yrs.

**PPL oil reserves down by 29% and gas reserves up by +1% as at Dec-18**

PPL's oil reserves are reported at 40.17mnbbbls down by 29% while gas reserves are recorded at 2.89tcf, up by +1% as at Dec-18, compared to 56.80mnbbbls and 2.86tcf at Jun-18. The decline in oil reserves is primarily attributable to 55%, 29% and 10% drop in Nashpa, Makori East and Adhi reserves which accounts for 40%, 16% and 3% of total oil reserves for PPL. Gas reserves are marginally up by +1% on the back of +41%, +35% and +10% increase in Makori East, Maramzai and Qadirpur reserves which contribute nearly 3%, 3% and 2% to total gas reserves despite 6% each drop in Sui and Kandhkot reserves. This brings PPL's estimated reserves life to 6.7yrs for oil (down 33%) and 9.14yrs for gas (up by +4%) with total reserve life of 8.90yrs.

**MARI oil and gas reserves up by +18% and +3% as at Dec-18**

MARI oil and gas reserves are reported at 1.18mnbbbls and 5.13tcf, up by +18% and +3% as at Dec-18 respectively, compared to 1.0mnbbbls and 5.0tcf at Jun-18. The incline in oil reserves is primarily attributable to +22% rise in Halini reserves. Gas reserves are up by +3% on the back of inclusion of Bhitai, Tipu, Shahbaz and Shaheen reserves cumulatively adding 0.27tcf. This brings MARI's estimated reserves life to 6.65yrs for oil (up +53%) and 19.68yrs for gas (up by +1%) with total reserve life of 19.63yrs.

**Recommendation**

MARI and PPL remain our top picks among IGI E&P Universe with our Dec-19 target prices of PKR 1,840.46/share and PKR 224.64/share offering +54% and +28% upside respectively, from last close. PPL and MARI are trading at FY19F P/E of 6.3x and 6.5x respectively. Due to pending divestment of GOP's stake in MARI we believe upside potential to remain limited. We also have BUY stance on OGDC with Dec-19 target price of PKR 186.45/share offering 31% upside from last close.

Exhibit:

**Oil & Gas 2P Reserves as at Dec-18**

	Dec-18	Jun-18	% change	Jun-17	YoY	Jun-16	Jun-15	Reserve Life (yrs)		Total Oil & gas Reserve Life (yrs)	
								Previous	Current	Previous	Current
<b>Oil Reserves - mnbbls</b>											
OGDC	113.21	149.40	-24%	158.70	-6%	171.00	192.50	9.64	7.43	12.77	17.03
PPL	40.17	56.80	-29%	64.10	-11%	65.50	70.10	10.02	6.72	8.88	8.90
POL	46.53	47.90	-3%	20.50	134%	20.60	23.30	17.87	17.75	14.35	14.84
MARI	1.18	1.00	18%	1.30	-23%	1.80	2.10	4.34	6.65	19.41	19.63
<b>Total</b>	<b>282.23</b>	<b>347.90</b>	<b>-19%</b>	<b>332.20</b>	<b>5%</b>	<b>350.60</b>	<b>384.40</b>				

	Dec-18	Jun-18	% change	Jun-17	YoY	Jun-16	Jun-15	Reserve Life (yrs)	
								Previous	Current
<b>Gas Reserves - bcf</b>									
OGDC	7,993	6,021	33%	6,351	-5%	6,706	7,089	13.41	18.99
PPL	2,891	2,862	1%	3,541	-19%	3,340	3,646	8.77	9.14
POL	437	419	4%	230	82%	237	273	12.67	13.46
MARI	5,126	4,956	3%	5,209	-5%	3,251	3,482	19.50	19.68
<b>Total</b>	<b>21,896</b>	<b>19,542</b>	<b>12%</b>	<b>20,794</b>	<b>-6%</b>	<b>22,422</b>	<b>24,360</b>		

Field	Weight %	Dec-18	Jun-18	% change	Jun-17	YoY	Jun-16	Jun-15	Stake %				
									OGDC	PPL	POL	MARI	
<b>Field Wise Oil Reserves-mnbbls</b>	<b>weight %</b>												
Nashpa	20%	57	127	-55%	134	-5%	141	148	57%	28%	0%	0%	
Mela	7%	21	4	496%	4	-11%	5	5	57%	28%	0%	0%	
Adhi	6%	17	19	-10%	27	-30%	29	32	50%	39%	11%	0%	
Jhandial	8%	24	24	-1%	-	n/a	-	-	0%	0%	80%	0%	
Joyamair	5%	13	13	0%	0	133x	-	-	0%	0%	100%	0%	
Pasakhi/Pasakhi NE	4%	12	5	172%	6	-18%	7	8	100%	0%	0%	0%	
Kunar	3%	7	11	-33%	6	74%	8	9	100%	0%	0%	0%	
Shahdadpur (Nasr/Wafiq/Sharf)	1%	3	4	-3%	3	29%	1	1	0%	65%	0%	0%	
Pindori	1%	2	2	-1%	1	163%	1	1	50%	0%	35%	0%	
Manzalai	0%	0	0	-50%	1	-20%	1	1	28%	28%	21%	0%	
Mamikhel	0%	0	0	50%	-	n/m	-	1	28%	28%	21%	0%	
Mardan Khel	2%	6	6	-10%	16	-60%	-	-	28%	28%	21%	0%	
Maramzai	2%	6	6	11%	3	78%	4	6	28%	28%	21%	0%	
Makori	0%	-	-	0%	-	n/m	7	7	28%	28%	21%	0%	
Makori Deep	1%	3	1	256%	1	-25%	-	-	28%	28%	21%	0%	
Makori East	4%	13	18	-29%	22	-19%	27	33	28%	28%	21%	0%	
Tolanj	0%	0	0	0%	0	-90%	-	-	28%	28%	21%	0%	
Tolanj West	0%	0	0	15%	0	-74%	-	-	28%	28%	21%	0%	

Field	Weight %	Dec-18	Jun-18	% change	Jun-17	YoY	Jun-16	Jun-15	Stake %			
									OGDC	PPL	POL	MARI
<b>Field Wise Gas Reserves-bcf</b>	<b>weight %</b>											
Mari	23%	5,060	4,885	4%	5,129	-5%	3,205	3,427	0%	0%	0%	100%
Uch	15%	3,352	1,901	76%	2,045	-7%	2,189	2,323	100%	0%	0%	0%
Kandhkot	3%	614	651	-6%	687	-5%	493	546	0%	100%	0%	0%
Sui	6%	1,205	1,277	-6%	1,835	-30%	1,997	2,158	0%	100%	0%	0%
Qadirpur	6%	1,215	1,109	10%	1,219	-9%	1,342	1,476	75%	7%	0%	0%
Jhandial	1%	289	290	0%	-	n/a	-	-	0%	0%	80%	0%
Manzalai	0%	24	38.00	-37%	48	-21%	62	79	28%	28%	21%	0%
Mamikhel	0%	16	9	78%	8	13%	10	21	28%	28%	21%	0%
Mardan Khel	1%	124	132	-6%	338	-61%	-	-	28%	28%	21%	0%
Maramzai	1%	273	202	35%	180	12%	209	256	28%	28%	21%	0%
Makori	0%	1	1	0%	1	0%	168	169	28%	28%	21%	0%
Makori Deep	0%	6	3	100%	3	0%	-	-	28%	28%	21%	0%
Makori East	1%	208	147	41%	176	-16%	207	235	28%	28%	21%	0%
Tolanj	0%	1	2	-50%	9	-78%	-	-	0.28	0.28	21%	0%
Tolanj West	0%	19	17	12%	63	-73%	-	-	28%	28%	21%	0%

Source: IGI Research, PPIS

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