

## Sector Update

### E&P Reserves Data as at Dec-19

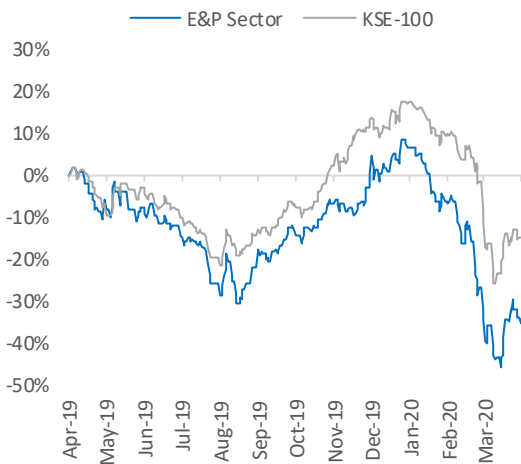
#### Oil Reserves as at Dec-19

mnbbbls	Dec-19	Jun-19	% Chng	Jun-18
OGDC	108.3	115.0	-5.8%	148.4
PPL	41.3	44.4	-7.0%	56.9
POL	46.0	47.6	-3.4%	47.9
MARI	1.1	1.1	1.4%	1.0
<b>Total</b>	<b>570.3</b>	<b>568.4</b>	<b>0.3%</b>	<b>347.9</b>

#### Gas Reserves as at Dec-19

bcf	Dec-19	Jun-19	% Chng	Jun-18
OGDC	7,594	7,815	-2.8%	5,992
PPL	2,689	2,839	-5.3%	2,862
POL	435	451	-3.4%	419
MARI	4,887	5,009	-2.4%	4,962
<b>Total</b>	<b>20,884</b>	<b>21,446</b>	<b>-2.6%</b>	<b>19,542</b>

### Relative Performance to KSE 100



Source: Bloomberg, PSX & IGI Research

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## Oil & Gas Exploration Companies

### Pakistan Oil reserves flat while gas reserves deplete by 3% as at Dec-19 end; RRR concerns amplify as no major addition reported

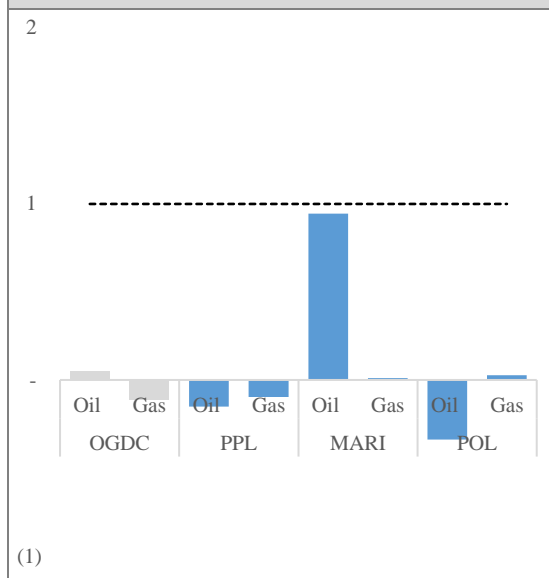
- ✓ As per latest data published by Pakistan Petroleum Information Service (PPIS), Pakistan's total oil reserves remained flat at 570mnbbbls as at Dec-19 compared to 568mnbbbls at Jun-19. Gas reserves are down by 2.6% YoY to 20.88tcf as at Dec-19 compared to 21.45tcf at Jun-19.
- ✓ Makhdumpur Deep oil reserves have been revised upwards by 13.98mnbbbls during 1HFY20. Makori Deep and Makori East reserves have been also revised,
- ✓ During 1HFY20 two new additions to gas reserves included Unarpur and Bitro which are operated by UEPL where PPL holds 40% and 33.3%,
- ✓ We maintain our overweight stance on E&P sector amid cheap valuation despite recent crumble in oil prices. MARI and OGDC remain our top picks with our Dec-20 target prices of PKR 1,609/share and PKR 175/share offering +51% and +79% upside from last close and are trading at FY21F P/E of 4.4x and 5.8x respectively.

### Pakistan Oil reserves remain flat while gas reserves are down by 2.6% in 1HFY20

As per latest data published by Pakistan Petroleum Information Service (PPIS), Pakistan's total oil reserves remained flat at 570mnbbbls as at Dec-19 compared to 568mnbbbls at Jun-19. Gas reserves are down by 2.6% YoY to 20.88tcf as at Dec-19 compared to 21.45tcf at Jun-19. Compared to Jun-19, oil reserves remained flat owing to revision of reserves for Makhdumpur Deep adding 14mnbbbls to Pakistan's Oil Reserves whereas 1HFY20 production was ~15mnbbbls while Gas reserves are down 2.6% compared to 21.45tcf as at Jun-19 which largely remains in line with 1HFY20 production.

### Major revision in reserves during 1HFY20 included:

- Makhdumpur Deep oil reserves have been revised upwards by 13.98mnbbbls during 1HFY20 bringing total oil reserves to 13.98mnbbbls from previous 0.02mnbbbls.
- During 1HFY20 two new additions to gas reserves included Unarpur and Bitro which are operated by UEPL where PPL holds 40% and 33.3% working interest respectively. Unarpur and Bitro gas reserves stand at 2.62bcf and 8.70bcf respectively.
- Makori Deep (Tal Block) oil reserves were substantially revised down to 1.20mnbbbls (down by 60%) whereas gas reserves were substantially revised upwards to 18bcf (up by +2.6x). To note, MOL (operator of Tal block) discovered substantial oil and gas reserves through development well namely Makori Deep-2 in Aug-19 with a discovery size of 1,844bopd and 18.25mmcf of oil and gas respectively which was connected to the production line in Nov-19.
- Makori East (Tal Block) witnessed a 22% and 10% decline in oil and gas reserves which was over and above the production for 1HFY20 of 1.76mnbbbls and 14.80bcf respectively. This has brought down Makori East reserve life for oil and gas to 6.7yrs and 2.3yrs.

**Exhibit: Reserve Replacement Ratio (RRR) as at Dec-19 – MARI leads with slowest depletion in reserves**


Source: PPIS, IGI Research

### POL oil and gas reserves down by 3% each as at Dec-19

POL's oil reserves are reported at 45.99mnbbbls down by 3% and gas reserves are recorded at 0.44tcf, down by 3% as at Dec-19, compared to 47.61mnbbbls and 0.45tcf as at Jun-19. The decline in oil reserves is primarily attributable to 1HFY20 production of 1.32mnbbbls whereas gas production is also down by 3% since Jun-19. Gas reserves also declined in line with 1HFY20 production of 16.2bcf. This brings POL's estimated reserves life to 18.9yrs for oil and 14.0yrs for gas (total reserve life of 15.6yrs).

### OGDC oil reserves down by 6% and gas reserves down by 3% at Dec-19

OGDC's oil reserves are reported at 108.32mnbbbls down by 6% while gas reserves are recorded at 7.6tcf, down by 3% as at Dec-19, compared to 115.0mnbbbls and 7.8tcf at Jun-19. The decline in oil and gas reserves remained in line with 1HFY20 production. This brings OGDC's estimated reserves life to 8.3yrs for oil and 18.7yrs for gas with total reserve life of 17.0yrs.

### PPL oil reserves down by 7% and gas reserves down by 5% at Dec-19

PPL's oil reserves are reported at 41.3mnbbbls down by 7% while gas reserves are recorded at 2.69tcf, down by 5% as at Dec-19, compared to 44.4mnbbbls and 2.84tcf at Jun-19. The decline in oil reserves is in line with 1HFY20 production of 2.86mnbbbls while the difference is attributable to marginal upward revision in Adhi field reserves. Gas reserves dropped in line with 1HFY20 production of 142bcf. This brings PPL's estimated reserves life to 9.2yrs for oil and 7.7yrs for gas with total reserve life of 9.0yrs.

### MARI oil reserves up by +1% and gas reserves down 2% at Dec-19

MARI oil reserves are reported at 1.1mnbbbls up by +1% whereas gas reserves are down by 2% to 4.89tcf as at Dec-19 respectively, compared to 1.09mnbbbls and 5.01tcf at Jun-19. The incline in oil reserves is primarily attributable to +0.19mnbbbls revision in Ghauri reserves. Gas reserves are down by 2% YoY which is in line with 1HFY20 production of 125bcf. This brings MARI's estimated reserves life to 3.87yrs for oil (up +13% YoY) and 18.5yrs for gas (down by 5% YoY) with total reserve life of 18.4yrs.

### Recommendation

We maintain our overweight stance on E&P sector amid cheap valuation despite recent crumble in oil prices. MARI and OGDC remain our top picks among IGI E&P Universe with our Dec-20 target prices of PKR 1,609/share and PKR 170/share offering +51% and +76% upside respectively, from last close. MARI and OGDC are trading at FY21F P/E of 5.8x and 4.4x respectively. Our preference for OGDC is also derived on the basis of high dividend yield of 9.4%. We also have BUY stance on PPL and POL with Dec-20 target price of PKR 160/share and PKR 450/share offering 84% and 56% upside respectively from last close. Due to cash dividend curtailment and heavy cash of PKR 104/share tied up in receivables, we prefer OGDC over PPL as our top pick despite FY21F P/E of 5.6x.

Major Oil & Gas field reserve life			
Oil fields	mnbbbls	1H20 production	Reserve Life
Nashpa	51.1	(2.79)	9.2
Mela	20.4	(0.26)	38.9
Adhi	24.4	(1.70)	7.2
Jhandial	23.5	(0.13)	89.3
Pasakhi/Pasakhi NE	11.1	(0.30)	18.2
Kunar	6.3	(0.53)	5.9
Mardan Khel	8.4	(0.76)	5.5
Maramzai	6.3	(0.82)	3.8
Makori Deep	1.2	(0.23)	2.6
Makori East	8.0	(1.76)	2.3
Gas Fields	bcf	1H20 production	Reserve Life
Mari	4,824	(125)	19.3
Uch	3,210	(64)	25.0
Kandhkot	547	(29)	9.5
Sui	1,071	(66)	8.1
Qadirpur	1,123	(44)	12.7
Mardan Khel	133	(10)	6.6
Maramzai	252	(24)	5.2
Makori East	200	(15)	6.7

Exhibit:  
Oil & Gas 2P Reserves as at Dec-19

	Dec-19	Jun-19	%Change	Dec-18	YoY	Jun-18	Jun-17	Jun-16	Reserve Life		Total Reserve Life	
									FY19	Dec-20	FY19	Dec-20
<b>Oil Reserves - mnbbbs</b>												
OGDC	108.32	114.99	-6%	112.60	-4%	148.42	-23%	157.61	8.56	8.34	17.71	17.02
PPL	41.27	44.37	-7%	40.81	1%	56.89	-22%	63.53	10.17	9.18	10.03	9.04
POL	45.99	47.61	-3%	46.53	-1%	47.94	-1%	20.49	20.07	18.87	15.83	15.56
MARI	1.10	1.09	1%	1.20	-8%	1.00	9%	1.35	7.45	6.64	19.46	19.75
<b>Total</b>	<b>570.31</b>	<b>568.45</b>	<b>0%</b>	<b>282.23</b>	<b>102%</b>	<b>347.90</b>	<b>63%</b>	<b>332.20</b>	<b>17.49</b>	<b>19.25</b>	<b>15.53</b>	<b>14.88</b>

									FY19	Dec-20
<b>Gas Reserves - bcf</b>										
OGDC	7,594	7,815	-3%	8,018	-5%	5,992	6,351	6,706	19.45	18.69
PPL	2,689	2,839	-5%	2,891	-7%	2,862	3,541	3,340	8.68	7.68
POL	435	451	-3%	437	0%	419	230	237	14.00	14.05
MARI	4,887	5,009	-2%	5,132	-5%	4,962	5,209	3,251	19.52	19.89
<b>Total</b>	<b>20,884</b>	<b>21,446</b>	<b>-3%</b>	<b>21,896</b>	<b>-5%</b>	<b>19,542</b>	<b>20,794</b>	<b>22,422</b>	<b>14.93</b>	<b>15.59</b>

Field	weights %									Stake %			
		OGDC	PPL	POL	MARI	OGDC	PPL	POL	MARI				
Nashpa	9%	51	54	-5%	57	-5%	127	134	141	57%	28%	0%	0%
Mela	4%	20	21	-1%	21	-1%	4	4	5	57%	28%	0%	0%
Adhi	4%	24	26	-6%	17	53%	19	27	29	50%	39%	11%	0%
Jhandial	4%	23	24	0%	24	0%	24	-	-	0%	0%	80%	0%
Joyamair	2%	13	13	0%	13	0%	13	0	-	0%	0%	100%	0%
Pasakhi/Pasakhi NE	2%	11	12	-5%	12	-5%	5	6	7	100%	0%	0%	0%
Kunar	1%	6	7	-8%	7	-8%	11	6	8	100%	0%	0%	0%
Shahdadpur (Nasr/Wafiq/Sharf)	1%	3	3	-7%	3	-1%	4	3	1	0%	65%	0%	0%
Pindori	0%	2	2	-1%	2	-1%	2	1	1	50%	0%	35%	0%
Manzalai	0%	1	1	20%	0	150%	0	1	1	28%	28%	21%	0%
Mamikhel	0%	0	0	0%	0	-33%	0	-	-	28%	28%	21%	0%
Mardan Khel	1%	8	9	-8%	6	63%	6	16	-	28%	28%	21%	0%
Maramzai	1%	6	7	-11%	6	13%	6	3	4	28%	28%	21%	0%
Makori	0%	-	-	0%	-	0%	-	-	7	28%	28%	21%	0%
Makori Deep	0%	1	3	-60%	3	-6%	1	1	-	28%	28%	21%	0%
Makori East	1%	8	10	-22%	13	-19%	18	22	27	28%	28%	21%	0%
Tolanj	0%	-	-	0%	0	-100%	0	0	-	28%	28%	21%	0%
Tolanj West	0%	0	0	-20%	0	67%	0	0	-	28%	28%	21%	0%
Ayesha	12%	67	67	0%	-	0%	-	-	-	0%	0%	0%	0%
Ayesha North	12%	69	69	0%	-	0%	-	-	-	0%	0%	0%	0%
Aminah	6%	36	36	0%	-	0%	-	-	-	0%	0%	0%	0%
Zainab	19%	110	110	0%	-	0%	-	-	-	0%	0%	0%	0%

Field	weights %	OGDC	PPL	POL	MARI								
Mari	23%	4,824	4,942	-2%	5,060	-2%	4,885	5,129	3,205	0%	0%	0%	100%
Uch	15%	3,210	3,274	-2%	3,352	-2%	1,901	2,045	2,189	100%	0%	0%	0%
Kandhkot	3%	547	576	-5%	614	-6%	651	687	493	0%	100%	0%	0%
Sui	5%	1,071	1,137	-6%	1,205	-6%	1,277	1,835	1,997	0%	100%	0%	0%
Qadirpur	5%	1,123	1,167	-4%	1,215	-4%	1,109	1,219	1,342	75%	7%	0%	0%
Kandra	9%	1,858	1,858	0%	1,858	0%	1,858	1,858	1,858	0%	0%	0%	0%
Zin	5%	1,132	1,132	0%	1,132	0%	1,132	1,132	1,132	83%	0%	0%	0%
Jhandial	1%	287	288	0%	289	0%	290	-	-	0%	0%	80%	0%
Manzalai	0%	38	46	-18%	24	92%	38	48	62	28%	28%	21%	0%
Mamikhel	0%	12	12	-2%	16	-25%	9	8	10	28%	28%	21%	0%
Mardan Khel	1%	133	143	-7%	124	15%	132	338	-	28%	28%	21%	0%
Maramzai	1%	252	277	-9%	273	1%	202	180	209	28%	28%	21%	0%
Makori	0%	0	1	-70%	1	0%	1	1	168	28%	28%	21%	0%
Makori Deep	0%	18	7	156%	6	17%	3	3	-	28%	28%	21%	0%
Makori East	1%	200	221	-10%	208	6%	147	176	207	28%	28%	21%	0%
Tolanj	0%	2	2	-20%	1	100%	2	9	-	0.28	0.28	21%	0%
Tolanj West	0%	18	21	-13%	19	11%	17	63	-	28%	28%	21%	0%

Source: IGI Research, PPIS