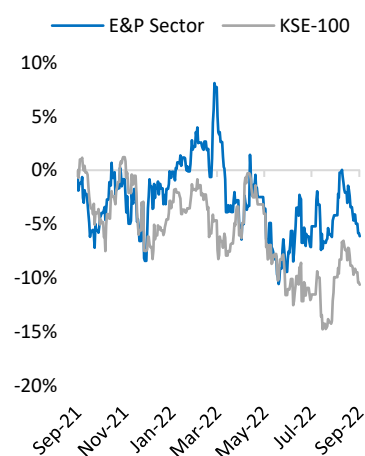


## Sector Update

E&P Reserves' data as at Jun-22

	Jun/22	Dec/21	%ch	Jun/21	y/y
<b>Oil Reserves - mnbbls</b>					
OGDC	80.91	86.17	-6%	98.45	-18%
PPL	29.76	31.60	-6%	40.65	-27%
POL	31.73	31.88	0%	31.74	0%
MARI	21.67	3.20	6.8x	2.87	7.6x
<b>Total</b>	<b>232.51</b>	<b>222.92</b>	<b>4%</b>	<b>249.05</b>	<b>-7%</b>
<b>Gas Reserves - bcf</b>					
OGDC	6,510	6,642	-2%	7,267	-10%
PPL	2,629	2,751	-4%	2,911	-10%
POL	395	399	-1%	408	-3%
MARI	4,917	5,047	-3%	5,149	-5%
<b>Total</b>	<b>19,513</b>	<b>19,986</b>	<b>-2%</b>	<b>20,951</b>	<b>-7%</b>

### Relative Performance to KSE 100



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## Oil & Gas Exploration Companies

### Pakistan oil reserves up by +4% while gas reserves down by 2% as at Jun-22 end; RRR still below par

- As per data published by Pakistan Petroleum Information Service (PPIS), Pakistan's total oil reserves are up by +4% to 232.5mnbbls as at Jun-22 compared to 222.9mnbbls at Dec-21. Gas reserves are up marginally down by 2% to 19.5tcf as at Jun-22 compared to 19.99tcf at Dec-21.
- Major revision in reserves during 2HFY22 included: Upward revision in Mari oilfield reserves by 18mnbbls to 20mnbbls as at Jun-22. Makori East gas reserves have been revised upward by 6bcf to 151bcf as at Jun-22, up by +4%. Pasakhi/Pasakhi NE oil reserves dropped by 21% as at Jun-22.
- Major revision in reserves during FY22 included: Downward revision in Nashpa and Mela oilfield reserves by 38%/y/y and 74%/y/y respectively. Mari oil reserves up by +13xy/y. Chanda oil reserves up by +3xy/y/. Qadirpur gas reserves down by 14%/y/y. Tolanj West gas reserves are up by +2xy/y as at Jun-22.
- Reserve Replacement Ratio (RRR) for OGDC, PPL, POL and MARI remained below par during FY22. For oil and gas RRR was (0.35) and (0.93) for OGDC, (1.1) and (0.11) for PPL, 0.99 and 0.57 for POL and 42.4 and 0.16 for MARI. Only MARI reported oil RRR of more than 1 due to upward revision of Mari oil reserves.

### Pakistan Oil reserves up while gas reserves are down by 2% as at Jun-22

As per data published by Pakistan Petroleum Information Service (PPIS), Pakistan's total oil reserves are up by +4% to 232.5mnbbls as at Jun-22 compared to 222.9mnbbls at Dec-21. Gas reserves are up marginally down by 2% to 19.5tcf as at Jun-22 compared to 19.99tcf at Dec-21. Compared to Dec-21, oil reserves are up due to upward revision in Mari field reserves (contributing nearly 20mnbbls). Compared to Dec-21, oil reserves increased by 9.6mnbbls as at Jun-22 compared to 2HFY22 production of 12.9mnbbls. Gas reserves are down 2% or 473bcf as at Jun-22 which is below 2HFY22 production of 617bcf mainly due to upward revision of Makori East gas reserves. On yearly basis, oil and gas reserves are down by 7%/y/y each, mainly due to downward revision of Nashpa and Mela oil reserves compensated by upward revision in Mari and Makori East reserves and natural depletion of gas reserves.

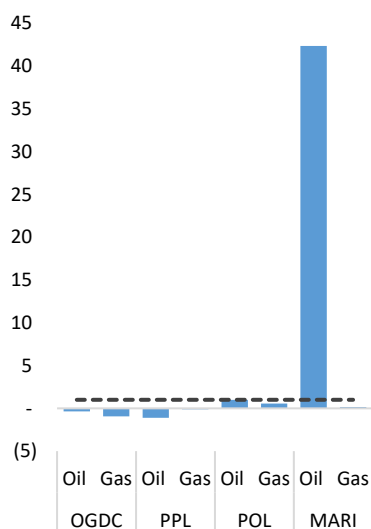
### Major revision in reserves during 2HFY22 included:

- Upward revision in Mari oilfield reserves by 18mnbbls to 20mnbbls as at Jun-22.
- Makori East gas reserves have been revised upward by 6bcf to 151bcf as at Jun-22, up by +4%.
- Pasakhi/Pasakhi NE oil reserves dropped by 21% as at Jun-22.

### Major revision in reserves during FY22 included:

- Downward revision in Nashpa and Mela oilfield reserves by 38%/y/y and 74%/y/y to 27mnbbls and 5mnbbls respectively as at Jun-22.
- Mari oil reserves up by +13xy/y to 20mnbbls as at Jun-22.
- Chanda oil reserves up by +3xy/y/ to 6mnbbls as at Jun-22.
- Qadirpur gas reserves down by 14%/y/y to 873bcf as at Jun-22.
- Tolanj West gas reserves are up by +2xy/y to 30bcf as at Jun-22

**Exhibit: Reserve Replacement Ratio (RRR) as at Jun-22 – MARI leads with slowest depletion in reserves**



Major Oil & Gas field reserve life			
Oil fields	Mn bbls	FY22 Prod.	Reserve Life
Nashpa	27.3	4.5	6.1
Mela	5.0	0.6	9.0
Jhandial	23.2	0.1	258.3
Mari	20.1	0.0	869.1
Adhi	17.2	1.0	17.3
Joyamair	0.4	0.0	22.9
Pasakhi/Pas.NE	6.7	0.1	55.5
Makori East	13.1	3.2	4.1
Mardan Khel	6.0	0.9	6.7
Shahdadpur	5.9	0.3	22.8
Maramzai	3.9	1.3	3.0
Gas fields	bcf	FY22 Prod.	Reserve Life
Mari	4,84	262.2	18.5
Uch	2,85	147.5	19.3
Kandhkot	445	37.2	11.9
Sui	1,06	122.0	8.7
Qadirpur	873	62.0	14.1
Mardan Khel	95	14.9	6.4
Maramzai	209	41.6	5.0
Makori East	151	27.9	5.4

**POL: Oil reserves remain flat while gas reserve marginally down by 1% as at Jun-22**

POL's oil reserves remained flat at 31.73mnbbbls while gas reserves reported at decline of 1% to 0.39tcf, as at Jun-22, compared to 31.88mnbbbls and 0.40tcf as at Dec-21. Oil reserves remained flat due to upward revision in Meyal Reserves by 0.5mnbbbls compared to total production of 0.9mnbbbls while gas reserves declined due to upwards revision in Meyal and Makori East gas reserves (total up by 4.6bcf) compared to production of 12.4bcf during 2HFY22. This brings POL's estimated reserves life to 15.6yrs each for oil and gas (total reserve life of 15.6yrs).

**OGDC: Oil and gas reserves down by 6% and 2% respectively as at Jun-22**

OGDC's oil reserves are reported at 80.91mnbbbls down by 6% while gas reserves are recorded at 6.5tcf, down by 2% as at Jun-22, compared to 86.17mnbbbls and 6.6tcf at Dec-21. The decline in oil reserves was below 2HFY22 production of 6.1mnbbbls mainly due to addition of cumulative reserves of 0.9mnbbbls from Sono and Dhakni. Decline in gas reserves was also below 2HFY22 production of 183bcf mainly due to upward revision in Dakhni, Kadanwari and Makori East (cumulatively adding 29bcf). This brings OGDC's estimated reserves life to 6.3yrs for oil and 17.7yrs for gas with total reserve life of 15.9yrs.

**PPL: Oil reserves down by 6% and gas reserves down by 4% at Jun-22**

PPL's oil reserves are reported at 29.8mnbbbls down by 6% while gas reserves are recorded at 2.63tcf, down by 4% as at Jun-22, compared to 31.6mnbbbls and 2.75tcf at Dec-21. The decline in oil reserves (down by 1.8mnbbbls) was below 2HFY22 production of 2.2mnbbbls due to upward revision in Makori East reserves while decline in gas reserves of 122bcf was slightly below 2HFY22 production of 132bcf owing to upward revision in Makori East reserves. This brings PPL's estimated reserves life to 5.9yrs for oil and 9.4yrs for gas with total reserve life of 9.1yrs.

**MARI: Oil reserves up by +6.8x while gas reserves down by 4% at Jun-22**

MARI oil reserves are reported at 21.7mnbbbls up by +6.8x whereas gas reserves are down by 4% to 4.9tcf as at Jun-22 respectively, compared to 3.2mnbbbls and 5.0tcf at Dec-21. The incline in oil reserves is primarily attributable to upward revision of 18mnbbbls from Mari oil reserves. Gas reserves declined by 130bcf as at Jun-22, which was slightly below 2HFY22 production of 143bcf mainly due to addition of Iqbal and Hilal gas reserves under Mari gas field adding cumulative of 12.3bcf. This brings MARI's estimated reserves life to 47.1yrs for oil and 17.5yrs for gas with total reserve life of 17.7yrs.

**Reserve Replacement Ratio (RRR) remains key concern**

Reserve Replacement Ratio (RRR) for OGDC, PPL, POL and MARI remained below par during FY22. For oil and gas RRR was (0.35) and (0.93) for OGDC, (1.1) and (0.11) for PPL, 0.99 and 0.57 for POL and 42.4 and 0.16 for MARI. Only MARI reported oil RRR of more than 1 due to upward revision of Mari oil reserves.

**Recommendation**

MARI and POL remain our preferred picks among IGI E&P Universe with our Dec-22 target prices of PKR 2,050/share and PKR 537/share offering +22% and 30% upside from last close respectively. MARI and POL are trading at FY23F P/E of 4.2x and 4.4x. We base our liking for MARI and POL on the back of negligible exposure to circular debt and strong cash position. Both MARI and POL also offer healthy dividend yield of 12% and 16% respectively. However, for OGDC and PPL, we await any positive development on circular debt resolution which would initiate a multiple re-rating for both these companies.

Thursday, 08 September 2022

### Exhibit: Oil & Gas 2P Reserves as at Jun-22

	Jun-22	Dec-21	%Ch	Jun-21	y/y	Jun-20	Jun-19	Jun-18	Jun-17	Jun-16	Reserve Life		Total RL							
											Dec-21	Jun-22	Dec-21	Jun-22						
Oil Reserves - mnbbls																				
OGDC	80.91	86.17	-6%	98.45	-18%	108.79	118.97	152.76	159.86	171.00	6.37	6.31	15.81	15.85						
PPL	29.76	31.60	-6%	40.65	-27%	42.40	44.42	56.89	63.53	65.50	6.30	5.93	9.51	9.08						
POL	31.73	31.88	0%	31.74	0%	45.67	47.61	47.94	20.49	20.60	14.96	15.58	15.24	15.64						
MARI	21.67	3.20	6.8x	2.87	7.5x	0.96	1.11	1.06	1.35	1.80	8.35	47.09	18.17	17.73						
Total	232.51	222.92	4%	249.05	-7%	540.08	568.45	347.90	332.20	350.60										
Gas Reserves - bcf											Dec-21	Jun-22								
OGDC	6,510	6,642	-2%	7,267	-10%	7,512	7,751	6,007	6,351	6,706	17.76	17.74								
PPL	2,629	2,751	-4%	2,911	-10%	2,822	2,828	2,851	3,541	3,340	9.84	9.41								
POL	395	399	-1%	408	-3%	422	451	419	230	237	15.09	15.64								
MARI	4,917	5,047	-3%	5,149	-5%	4,753	5,004	4,957	5,209	3,251	18.25	17.46								
Total	19,513	19,986	-2%	20,951	-7%	20,914	21,446	19,542	20,794	22,422										
											Stake %									
Oil Reserves - mnbbls	weights %										OGDC	PPL	POL	MARI						
Nashpa	12%	27	29	-7%	44	-38%	49	54	127	134	141	57%	28%	0%	0%					
Mela	2%	5	5	-4%	20	-74%	20	21	4	4	5	57%	28%	0%	0%					
Adhi	7%	17	18	-6%	20	-14%	23	26	19	27	29	50%	39%	11%	0%					
Jhandial	10%	23	23	0%	23	0%	23	24	24	-	-	0%	0%	80%	0%					
Mari	9%	20	2	13x	2	13x	-	-	-	-	-	0%	0%	0%	100%					
Chanda	2%	6	6	-8%	2	185	3	4	2	3	-	72%	0%	0%	0%					
Dhurnal	4%	10	10	0%	10	-1%	10	10	10	10	-	20%	0%	5%	0%					
Joyamair	0%	0	0	-2%	0	-5%	13	13	13	0	-	0%	0%	100%	0%					
Pasakhi/Pasakhi NE	3%	7	9	-21%	9	-25%	10	12	5	6	7	100%	0%	0%	0%					
Kunar	0%	0	1	-55%	5	-93%	6	7	11	6	8	100%	0%	0%	0%					
Shahdadpur	3%	6	6	-3%	7	-15%	7	3	4	3	1	0%	65%	0%	0%					
Pindori	0%	1	1	-8%	1	-18%	2	2	2	1	1	50%	0%	35%	0%					
Manzalai	0%	0	0	-25%	0	-25%	1	1	0	1	1	28%	28%	21%	0%					
Mamikhel	0%	0	0	0%	0	0%	0	0	0	-	-	28%	28%	21%	0%					
Mardan Khel	3%	6	6	-6%	7	-13%	8	9	6	16	-	28%	28%	21%	0%					
Maramzai	2%	4	5	-13%	5	-25%	6	7	6	3	4	28%	28%	21%	0%					
Makori Deep	0%	0	0	-25%	1	-40%	1	3	1	1	-	28%	28%	21%	0%					
Makori East	6%	13	14	-4%	11	18%	9	10	18	22	27	28%	28%	21%	0%					
Tolanj	0%	-	-	n/m	-	n/m	-	-	0	0	-	28%	28%	21%	0%					
Tolanj West	0%	0	0	0%	0	300	0	0	0	0	-	28%	28%	21%	0%					
Ayesha	0%	0	0	-20%	0	-38%	59	67	-	-	-	0%	0%	0%	0%					
Ayesha North	0%	0	0	-17%	0	-33%	68	69	-	-	-	0%	0%	0%	0%					
Aminah	0%	0	0	-4%	0	-4%	33	36	-	-	-	0%	0%	0%	0%					
Zainab	0%	0	0	0%	0	0%	110	110	-	-	-	0%	0%	0%	0%					
Gas Reserve - bcf											weights %									
											OGDC	PPL	POL	MARI						
Mari	25%	4,842	4,967	-3%	5,100	-5%	4,700	4,942	4,885	5,129	3,205	0%	0%	0%	100%					
Uch	15%	2,850	2,924	-3%	3,002	-5%	3,139	3,274	1,901	2,045	2,189	100%	0%	0%	0%					
Kandhkot	2%	445	468	-5%	482	-8%	524	576	651	687	493	0%	100%	0%	0%					
Sui	5%	1,062	1,121	-5%	1,185	-10%	1,002	1,137	1,277	1,835	1,997	0%	100%	0%	0%					
Qadirpur	4%	873	903	-3%	1,011	-14%	1,084	1,167	1,109	1,219	1,342	75%	7%	0%	0%					
Kandra	10%	1,858	1,858	0%	1,858	0%	1,858	1,858	1,858	1,858	1,858	0%	0%	0%	0%					
Zin	6%	1,132	1,132	0%	1,132	0%	1,132	1,132	1,132	1,132	1,132	83%	0%	0%	0%					
Jhandial	1%	284	285	0%	285	0%	286	288	290	-	-	0%	0%	80%	0%					
Manzalai	0%	26	30	-12%	33	-19%	33	46	38	48	62	28%	28%	21%	0%					
Mamikhel	0%	5	5	-9%	6	-14%	7	12	9	8	10	28%	28%	21%	0%					
Mardan Khel	0%	95	103	-7%	110	-14%	126	143	132	338	-	28%	28%	21%	0%					
Maramzai	1%	209	228	-9%	250	-17%	232	277	202	180	209	28%	28%	21%	0%					
Makori	0%	-	-	n/m	-	n/m	0	1	1	1	168	28%	28%	21%	0%					
Makori Deep	0%	3	3	-13%	4	-26%	7	7	3	3	-	28%	28%	21%	0%					
Makori East	1%	151	144	4%	159	-5%	188	221	147	176	207	28%	28%	21%	0%					
Tolanj	0%	1	1	-14%	0	500	1	2	2	9	-	28%	28%	21%	0%					
Tolani West	0%	30	31	-3%	15	107	17	21	17	63	-	28%	28%	21%	0%					

Source: IGI Research, PPIS

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