

# Pakistan Oil & Gas Exploration

## Dec'23: Hydrocarbon Reserves declined by 5% YoY to 3,313mn BOE

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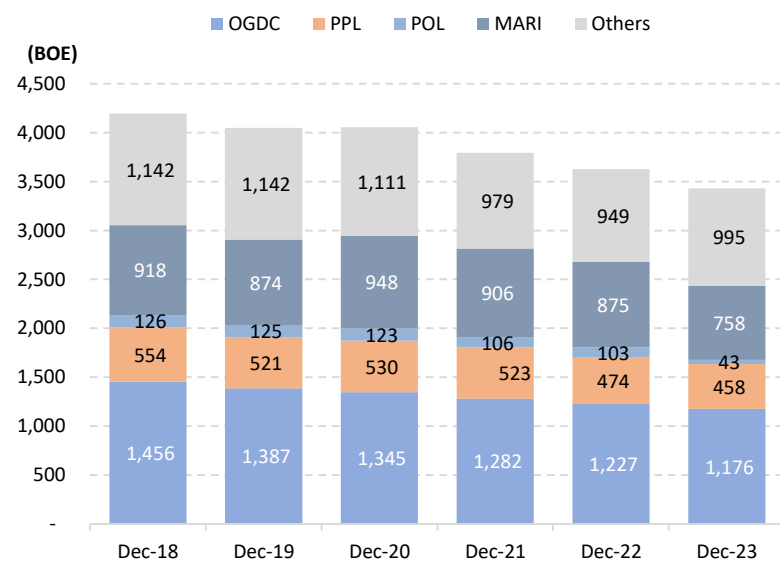
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# Oil & Gas Reserves

## Dec'23: Reserves declined by 5% YoY to 3,313mn BOE

- According to the PPIS's data, the Pakistan's oil reserves reduced by 14% YoY, arriving at 193mn bbl in Dec'23 compared to 224mn bbl in Dec'22 amid natural decline at major oil fields. Oil reserves of major oilfields such as Adhi, Nashpa, Chanda, Makori East, Pasakhi/Pasakhi North East, Mardankhel, and Jhandial plunged by 14%, 14%, 15%, 18%, 33%, 39%, and 100% YoY, respectively which contributed to the overall decline in oil reserves. Meanwhile, the oil reserves of fields such as Tolanj West, Pindori, Halini and Jagir witnessed a jump of 2x, 2x, 4x, and 21x YoY, respectively.
- By Dec'23, the total gas reserves arrived at 18,109 bcf vis-à-vis 19,042 bcf in Dec'22, depicting a decline of 5% YoY. On a field wise basis, gas reserves of Uch, Kunar West Deep, Qadirpur, Shahdadpur, Sui and Mari plummeted by 5%, 5%, 7%, 8%, 10% and 23% YoY, respectively. Whereas, gas reserves of Rizq, Kandkhot, Makori East, Pindori, and Tolanj West augmented by 12%, 17%, 28%, 2x, and 2x YoY, respectively.
- Oil and gas reserves from new fields such as 92 Kot Palak, Mari Ghazij, Bolan East, Bettani (Wali), Kot Nawab, Nim East, Taj South, Fatah, Umair South East, Jhim East, and Shahpur Chakar North were added to the country's total reserves by Dec'23, cumulatively contributing 130mn barrels of oil equivalent (BOE) to the total reserves.
- In AHL E&P universe, oil reserves of PPL, POL and MARI declined by 12%, 63%, and 76% YoY, respectively. Whereas, OGDC's oil reserves witnessed an uptick of 2% YoY.
- In terms of gas reserves, PPL, OGDC, MARI, and POL's reserves were reduced by 3%, 5%, 12% and 56% YoY, respectively.
- Our estimates for the remaining hydrocarbon reserve life of OGDC, MARI, PPL and POL arrived at 20yrs, 13yrs, 11yrs, and 7yrs, respectively. Whereas, the country's total hydrocarbon reserves have a reserve life of 15yrs.

Exhibit: Reserves in Million Barrels of Oil Equivalent (BOE)



Source (s): PPIS, AHL Research

# Oil & Gas Reserves

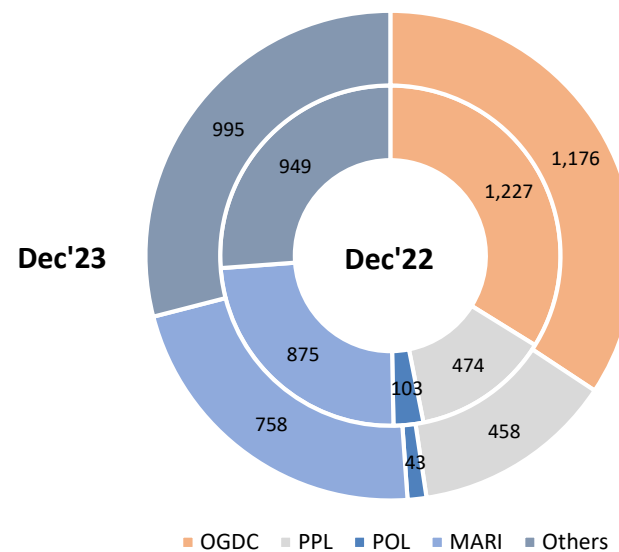
Dec'23: Reserves declined by 5% YoY to 3,313mn BOE

Exhibit: Hydrocarbon Reserves of Pakistan

	Dec-23	Dec-22	YoY	Dec-21	Dec-20
<b>Oil Reserves - mnbbbls</b>					
OGDC	82	80	2%	87	102
PPL	25	29	-12%	33	43
POL	12	31	-63%	32	45
MARI	5	20	-76%	3	3
Others	69	64	8%	67	74
<b>Total</b>	<b>193</b>	<b>224</b>	<b>-14%</b>	<b>223</b>	<b>266</b>
<b>Gas Reserves - bcf</b>					
OGDC	6,121	6,415	-5%	6,683	6,959
PPL	2,420	2,492	-3%	2,742	2,723
POL	173	398	-56%	411	435
MARI	4,216	4,784	-12%	5,049	5,286
Others	5,179	4,953	5%	5,101	5,805
<b>Total</b>	<b>18,109</b>	<b>19,042</b>	<b>-5%</b>	<b>19,986</b>	<b>21,207</b>

Source (s): PPIS, AHL Research

Exhibit: Reserves in Million Barrels of Oil Equivalent (BOE)



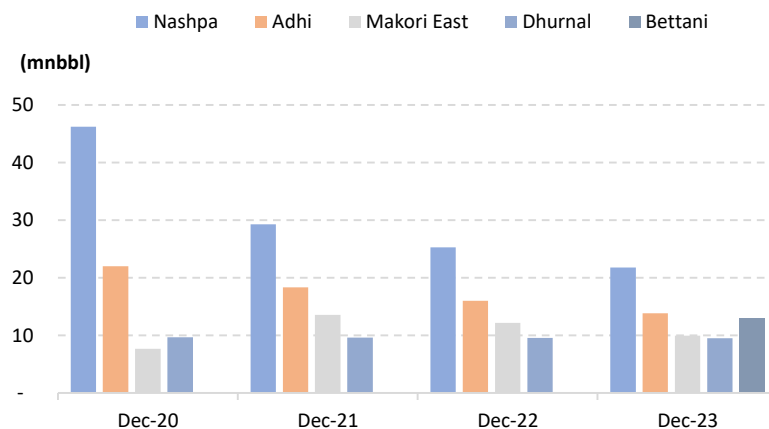
Source (s): PPIS, AHL Research

# Oil & Gas Reserves

## Company-wise

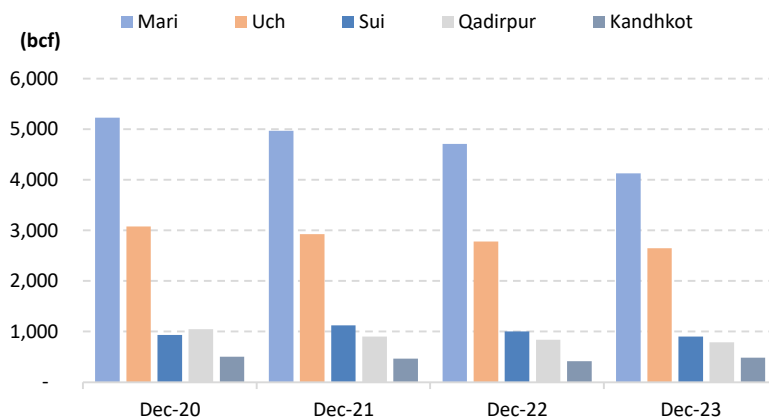
- Oil reserves of OGDC displayed an uptick of 2% YoY, settling at 82mn bbl on account of the addition of new reserves such as Bettani (which has the third-highest oil reserves in the country), Nim East, and Kot Nawab with a reserve size of 13.2mn bbl, 0.2mn bbl and 0.1mn bbl, respectively. Furthermore, Buzdar South, Chak-66 North East, Dars, Pindori, Tolanj West, and Jagir witnessed a growth in oil reserves. In terms of gas reserves, OGDC showcased a decrease of 5% YoY, clocking in at 6,121 bcf amid fall in reserves of Uch, Qadirpur, Kunar West Deep, Naimat West, and Nashpa. Additionally, new gas reserves of Bettani, Nim East, and Umair South East with a size of 216 bcf, 2 bcf and 2 bcf, respectively, were included in OGDC's total gas reserves.
- PPL's total oil reserves tumbled by 12% YoY to reach 25mn bbl owed to a reduction in reserves of Shahdadpur, Nashpa, Adhi, Miano, Makori East, and Adam. Parallel to this, gas reserves of PPL dwindled by 3% YoY on account of a slump in reserves of Qadirpur, Shahdadpur, Dhok Sultan, Sui, Rehman, and Mardankhel. Alongside this, the oil and gas reserves of Shahpur Chakar North, Jhim East, and Bolan East with a cumulative size of 11mn BOE were added to the company's hydrocarbon reserve.
- MARI's oil reserves contracted by 76% YoY, arriving at 5mn bbl in Dec'23. Similarly, MARI's gas reserves declined by 12% YoY. The decline in oil and gas reserves of MARI is primarily due to significant reduction in reserves of Mari fields such as Bhitai, Shahbaz, Shaheen, Tipu/Mari Deep, SML and Hilal. Meanwhile, the reserve of Mari Ghazij was added to the total gas reserves (reserve size of 34.9 bcf), while Bolan East's oil reserve of 0.5mn bbl was included in the total oil reserves
- POL's oil reserves plunged by 63% YoY to settle at 12mn bbl in Dec'23, which is mostly due to the revision of Jhandial's oil reserve estimates by the company (leading to a massive reduction in the oil field's reserves). Likewise, the gas reserves of POL stood at 173 bcf in Dec'23, depleting by 56% YoY, which is mainly attributable to the shrinking of Jhandial's reserves by 100% YoY owed to the aforementioned reason.

**Exhibit: Oil Reserves of major fields**



Source (s): PPIS, AHL Research

**Exhibit: Gas Reserves of major fields**



Source (s): PPIS, AHL Research

# Oil & Gas Reserves

## Company-wise

Exhibit: Field Wise Oil Reserves - mnbbbls

	Weight	Dec-23	Dec-22	YoY	Dec-21	Dec-20
Nashpa	11%	21.79	25.30	-14%	29.28	46.23
Adhi	7%	13.83	16.02	-14%	18.37	22.00
Bettani	7%	12.99	-	nm	-	-
92 Kot Palak	6%	12.00	-	nm	-	-
Makori East	5%	9.97	12.20	-18%	13.60	7.70
Dhurnal	5%	9.54	9.60	-1%	9.64	9.69
Shahdadpur	3%	5.39	5.75	-6%	6.14	7.00
Mela	2%	4.58	4.85	-6%	5.24	19.90
Chanda	2%	4.50	5.30	-15%	6.27	2.60
Halini	2%	4.36	1.18	269%	1.45	1.76
Naimat West	2%	3.88	4.38	-11%	4.74	6.70
Pasakhi/Pasakhi North East	2%	3.85	5.73	-33%	8.52	9.82

Source (s): PPIS, AHL Research

Exhibit: Field Wise Gas Reserves - bcf

	Weight	Dec-23	Dec-22	YoY	Dec-21	Dec-20
Mari	23%	4,130	4,711	-12%	4,967	5,229
Uch	15%	2,649	2,782	-5%	2,924	3,076
Kandra	10%	1,858	1,858	0%	1,858	1,858
Zin	6%	1,132	1,132	0%	1,132	1,132
Sui	5%	902	1,006	-10%	1,121	935
Qadirpur	4%	784	841	-7%	903	1,046
Rodho	4%	704	706	0%	708	710
Kandhkot	3%	483	414	17%	468	501
Shahdadpur	3%	476	518	-8%	558	595
Kunar West Deep	2%	407	428	-5%	456	578
Nashpa	2%	295	329	-10%	362	392
92 Kot Palak	1%	265	-	nm	-	-

Source (s): PPIS, AHL Research

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Arif Habib Limited (AHL) uses three rating categories, depending upon return from current market price, with Target period as Dec 2024 for Target Price. In addition, return excludes all type of taxes. For more details, kindly refer the following table;

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BUY	Upside of subject security(ies) is more than +15% from last closing of market price(s)
HOLD	Upside of subject security(ies) is between -15% and +15% from last closing of market price(s)
SELL	Upside of subject security(ies) is less than -15% from last closing of market price(s)

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AHL Research uses the following valuation technique(s) to arrive at the period end target prices;

- Discounted Cash Flow (DCF)
- Dividend Discount Model (DDM)
- Sum of the Parts (SoTP)
- Justified Price to Book (JPTB)
- Reserved Base Valuation (RBV)

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- Interest Rate Risk
- Exchange Rate (Currency) Risk

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