ARIF HABIB LIMITED

REP-300

Pakistan Power Sector

Actual generation in 2QFY24 fell by 15.2% compared to the reference

18-Jan-2024

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ASIAMONEY
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Best Investment Bank: 2023

FinanceAsia
Best Investment Bank: 2022

Global Business Outlook
Best Equity House: 2022

ASSET ASIAN AWARDS TRIPLE A
Best Equity Advisor: 2021

CFA Society Pakistan
Best Brokerage House: 2023
Corporate Finance House: 2023
Best Economic Research House: 2023
Best Equity Sales Person (Runner up): 2023
Best Equity Research Analyst: 2022

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Pakistan Power Sector
Power Generation down up by 8.2% YoY during Dec'23

- Power generation went down by 8.2% YoY to 7,726 GWh (10,385 MW) during Dec'23, compared to 8,417 GWh (11,313 MW) during Dec'22. However, On MoM basis, generation increased by 2.4%. During 1HFY24, power generation increased by 0.6% YoY to 68,984 GWh (15,621 MW) compared to 68,570 GWh (15,528 MW) during 1HFY23.

- During Dec'23, the power generation was 12% lower than the reference generation. Additionally, for the 2QFY24, there has been a 15.2% decline in generation compared to the reference generation. This decline is expected to result in higher capacity charges for the 2QFY24 QTA.

- During Dec'23, fuel cost for power generation increased by 43.9% YoY to an average of PKR 10.13/KWh compared with an average cost of PKR 7.04/KWh during same period last year. On MoM basis fuel cost increased by 41.3%. The increase in fuel cost is primarily attributed to higher cost of generation of local coal (+68% YoY), RFO (+49% YoY), RLNG (+30% YoY), and gas (+39% YoY). Moreover, production from relatively economical sources decreased, with nuclear, wind, and solar production declining by 36% YoY, 29% YoY, and 11% YoY, respectively.

- The load factor of CPHGC arrived at zero during Dec'23, due to subdued demand from power purchasers, we view. The overall load factor of imported coal-based power plants clocked in at 11% during the month as compared to 18% during the same period last year. The load factor of TEL and TNPL settled at 72% and 78% during Dec'23, respectively, and the overall load factor of local coal-based plants came at 67%.

- The hydel-based generation surged by 8.1% YoY to 1,859 GWh during Dec'23. The increase in the generation has been witnessed, primarily because of 5% YoY surge in generation from WAPDA.

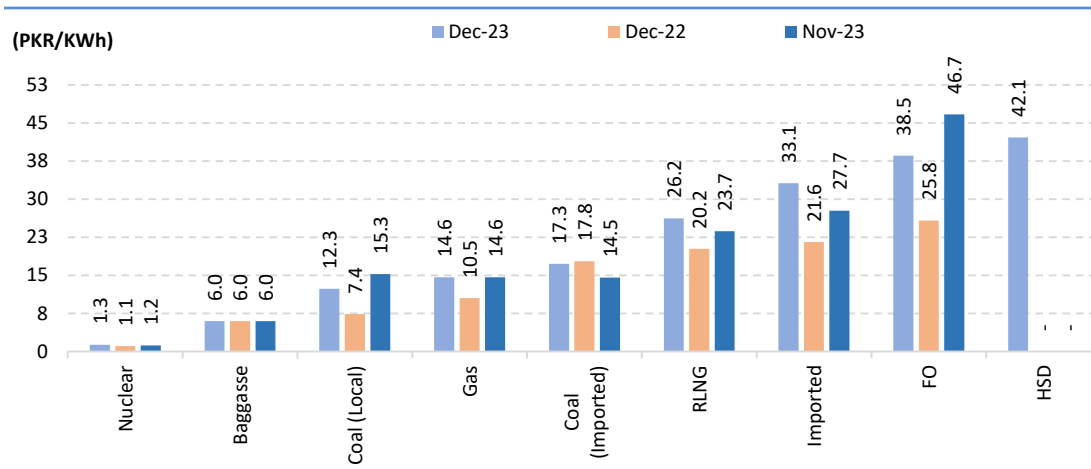**Exhibit: Historical Generation during the month of November**
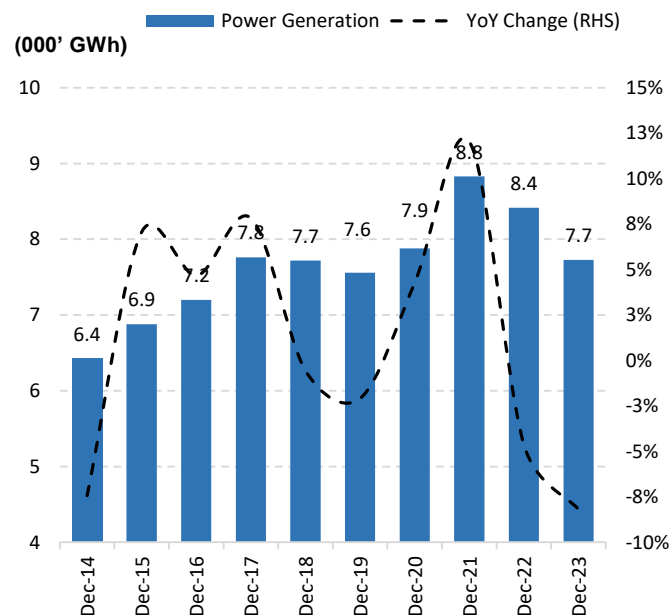
Source (s): NEPRA, AHL Research

Pakistan Power Sector
## Power Generation down up by 8.2% YoY during Dec'23

- The cost of power generation arrived at PKR 10.13/KWh during Dec'23 while including transmission losses and previous adjustments, the fuel cost grew to PKR 11.02/KWh. As a result of this, there is a projected rise of PKR 5.62/KWh in fuel charge adjustment which will be charged from customers with the Feb'23 bills. The YoY increase was witnessed during Dec'23 which was led by the following reasons;

  - The increase in fuel cost is primarily attributed to surge in fuel cost of local coal (+68% YoY), RFO (+49% YoY), RLNG (+30% YoY), and gas (+39% YoY) .

  - Rise in the generation of power from expensive fuel.

  - Production from relatively economical sources decreased, with nuclear, wind, and solar production declining by 36% YoY, 29% YoY, and 11% YoY, respectively.

Exhibit: Historical Trend of Fuel Cost during Novemebr

(PKR/KWh) ▬ Fuel Cost ┄┄┄ Average

Source (s): NEPRA, AHL Research

Exhibit: Source wise fuel cost during DEC'23, DEC'22 and Nov'23

(PKR/KWh) ■ Dec-23 ■ Dec-22 ■ Nov-23

Source (s): NEPRA, AHL Research

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L I M I T E D
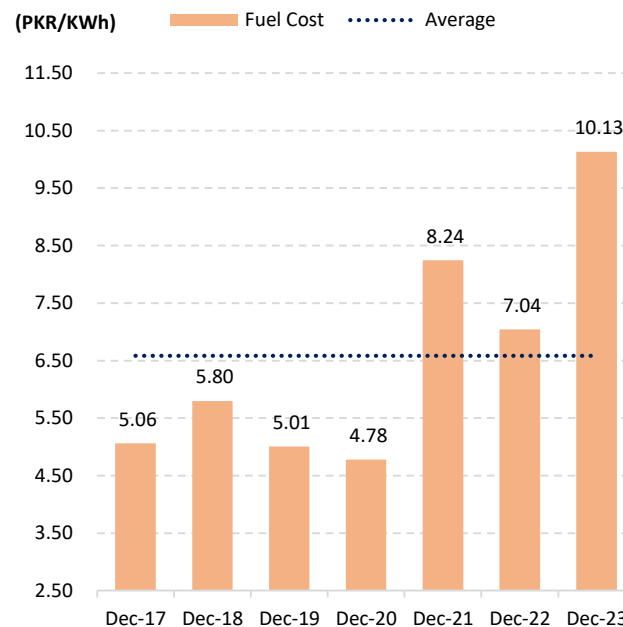
Pakistan Power Sector
Fuel Cost Trend

Exhibit: Source wise Fuel Cost

	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
PKR/KWh													
HSD	-	-	-	-	-	-	30.45	-	-	-	-	-	42.15
FO	25.80	28.97	21.67	21.28	23.14	23.24	26.10	28.73	33.32	37.05	38.70	46.71	38.55
Imported	21.56	25.66	24.73	23.39	23.45	23.53	23.63	23.62	25.10	23.80	23.17	27.73	33.13
RLNG	20.21	21.91	23.36	24.31	23.83	24.46	24.07	24.43	23.71	24.19	23.70	23.72	26.23
Coal (Imported)	17.76	22.06	19.37	11.74	19.78	14.31	21.79	19.86	20.14	15.79	13.27	14.53	17.25
Gas	10.50	9.59	10.07	11.26	11.86	12.46	11.74	13.68	13.22	13.52	13.61	14.62	14.60
Coal (Local)	7.35	6.92	9.46	7.90	7.43	8.31	7.87	7.59	7.01	7.62	12.10	15.27	12.33
Baggasse	5.97	5.98	5.36	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
Nuclear	1.07	1.07	1.07	1.08	1.06	1.15	1.07	1.17	1.17	1.20	1.23	1.21	1.32
Mixed	3.28	6.04	6.01	5.27	4.06	5.66	6.29	-	-	-	-	-	-
Hydel	-	-	-	-	-	-	-	-	-	-	-	-	-
Wind	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar	-	-	-	-	-	-	-	-	-	-	-	-	-
Average	**7.04**	**11.20**	**8.01**	**8.22**	**10.24**	**9.72**	**9.63**	**8.34**	**8.27**	**7.42**	**8.26**	**7.17**	**10.13**
PKR mn													
HSD	-	-	-	-	-	-	312	-	-	-	-	-	266
FO	1,004	13,420	2,336	862	5,151	5,600	19,427	8,461	21,632	8,914	3	13	6,484
Imported	859	953	815	739	714	812	590	681	658	577	522	824	934
RLNG	23,314	28,166	34,161	43,383	57,627	73,086	61,241	71,293	64,992	51,467	45,946	18,926	33,250
Coal (Imported)	10,754	32,513	6,634	3,190	14,090	10,896	23,544	13,938	14,489	10,173	4,461	7,057	6,619
Gas	13,374	10,987	8,554	12,467	14,112	15,829	13,752	15,440	16,043	13,592	9,576	10,157	12,061
Coal (Local)	6,730	6,710	7,082	8,384	8,222	10,804	10,654	11,226	11,478	11,270	16,147	15,078	16,148
Baggasse	604	607	536	627	486	448	398	239	226	206	172	160	606
Nuclear	2,451	2,014	2,010	2,163	2,022	1,771	1,991	2,458	2,392	2,738	2,241	1,897	1,928
Mixed	7	13	11	19	54	157	170	-	-	-	-	-	-
Hydel	-	-	-	-	-	-	-	-	-	-	-	-	-
Wind	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar													
Total	**59,096**	**95,383**	**62,140**	**71,834**	**102,478**	**119,402**	**132,078**	**123,736**	**131,910**	**98,940**	**79,067**	**54,114**	**78,296**

Source (s): NEPRA, AHL Research

Pakistan Power Sector
Load Factor of Major Power Plants

Exhibit: Load Factor of Major Power Plants

	Capacity (MW)	Dec-23 Generation*	Dec-23 Load Factor	Nov-23 Generation*	Nov-23 Load Factor	Dec-22 Generation*	Dec-22 Load Factor
RLNG Power Plants							
QATPL	1,180	173	20%	-	0%	122	14%
Haveli Bahadur Shah	1,230	533	58%	683	77%	740	81%
Balloki	1,223	548	60%	133	15%	261	29%
Punjab Thermal Power	1,320	12	1%	2	0%	8	1%
RLNG Total	**4,953**	**1,265**	**34%**	**818**	**23%**	**1,132**	**31%**
Imported Coal Power Plants							
Sahiwal Power Plant	1,320	168	17%	-	0%	82	8%
Port Qasim Power Plant	1,320	187	19%	84	9%	249	25%
China Power Hub Generation	1,320	-	0%	84	9%	2	0%
Lucky Electric Power Co. Ltd.	660	29	6%	318	67%	272	55%
Imported Coal Total	**4,620**	**384**	**11%**	**486**	**15%**	**605**	**18%**
Local Coal Power Plants							
Engro PowerGen Thar	660	351	71%	387	81%	368	75%
Thar Energy Ltd.	330	177	72%	194	82%	184	75%
Thar Coal Block-1 Power Gen Company	1,320	589	60%	250	26%	na	na
ThalNova Power Thar	330	193	78%	155	65%	na	na
Local Coal Total	**2,640**	**1,310**	**67%**	**987**	**52%**	**552**	**75%**
Nuclear Power Plants							
Chashma Nuclear	300	141	63%	215	99%	215	96%
Chashma Nuclear-II	315	216	92%	209	92%	225	96%
Chashma Nuclear-III	340	235	93%	224	92%	225	89%
Chashma Nuclear-IV	340	216	85%	211	86%	235	93%
Karachi Nuclear Power Plant-2	1,140	-	0%	0	0%	688	81%
Karachi Nuclear Power Plant-3	1,145	656	77%	712	86%	697	82%
Nuclear Total	**3,580**	**1,464**	**55%**	**1,572**	**61%**	**2,285**	**86%**
Major Listed IPPs							
KAPCO	1,336	-	-	-	-	-	0%
HUBC (Hub Plant)	1,281	-	-	-	-	-	-
HUBC (Narowal Plant)	214	7	4%	-	-	4	3%
NPL	195	23	16%	-	-	2	1%
NCPL	196	8	5%	-	-	2	1%
KOHE	124	13	14%	-	-	2	2%
LPL	350	5	2%	-	-	-	0%
PKGP	345	45	18%	-	-	-	0%
ALTN (Rousch)	395	-	-	-	-	0	0.00
ALTN (Altern)	27	-	-	-	-	-	-
SPWL	204	-	-	-	-	1	1%
EPQL	213	72	45%	64	42%	79	50%

Source (s): NEPRA, AHL Research, *GWh

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Pakistan Power Sector
Power Generation is up by 1.8% YoY during 5MFY24

Exhibit: Source wise Power Generation

GWh	Dec-23	Dec-22	YoY	Nov-23	MoM	1HFY24	1HFY23	YoY
Hydel	1,859	1,720	8%	2,755	-33%	24,260	22,083	10%
Nuclear	1,464	2,285	-36%	1,572	-7%	11,296	12,978	-13%
Coal (Local)	1,310	915	43%	987	33%	8,226	3,259	152%
RLNG	1,268	1,154	10%	798	59%	11,791	9,706	21%
Gas	826	1,274	-35%	695	19%	5,572	7,746	-28%
Coal (Imported)	384	606	-37%	486	-21%	3,271	6,308	-48%
FO	168	39	332%	0	nm	1,353	3,185	-58%
Wind	150	212	-29%	148	1%	2,253	1,968	14%
Bagasse	101	101	0%	27	274%	269	316	-15%
Solar	62	69	-11%	50	24%	426	453	-6%
Imported	28	40	-30%	30	-7%	160	287	-44%
HSD	6	-	nm	-	nm	6	206	nm
Mixed	-	2	nm	-	nm	-	74	nm
Total	**7,726**	**8,417**	**-8.2%**	**7,548**	**2.4%**	**68,984**	**68,570**	**0.6%**
Fuel Cost*	*10.13*	*7.04*	*43.9%*	*7.17*	*41.3%*	*8.21*	*9.14*	*-10.2%*

Source (s): NEPRA, AHL Research

Exhibit: Source Wise Share

	Dec-23	Dec-22	Nov-23	1HFY24	1HFY23
Hydel	24.1%	20.4%	36.5%	35.2%	32.2%
Nuclear	18.9%	27.1%	20.8%	16.4%	18.9%
Coal (Local)	17.0%	10.9%	13.1%	11.9%	4.8%
RLNG	16.4%	13.7%	10.6%	17.1%	14.2%
Gas	10.7%	15.1%	9.2%	8.1%	11.3%
Coal (Imported)	5.0%	7.2%	6.4%	4.7%	9.2%
FO	2.2%	0.5%	0.0%	2.0%	4.6%
Wind	1.9%	2.5%	2.0%	3.3%	2.9%
Bagasse	1.3%	1.2%	0.4%	0.4%	0.5%
Solar	0.8%	0.8%	0.7%	0.6%	0.7%
Imported	0.4%	0.5%	0.4%	0.2%	0.4%
HSD	0.1%	0.0%	0.0%	0.0%	0.3%
Mixed	0.0%	0.0%	0.0%	0.0%	0.1%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source (s): NEPRA, AHL Research

Analyst Certification and Disclaimer

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