

Pakistan Power Sector

The actual generation during Oct'23 remained 17% lower than the reference generation

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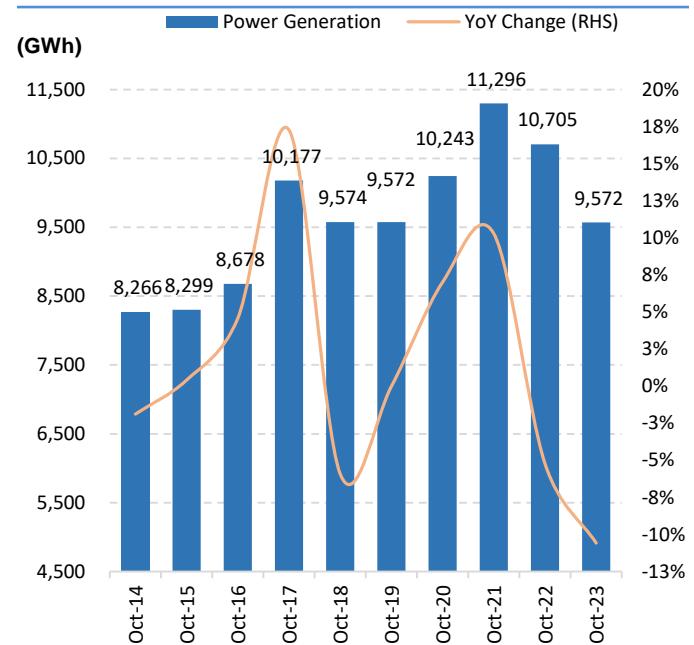
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Pakistan Power Sector

Power Generation down up by 11% YoY during Oct'23

- Power generation went down by 10.6% YoY to 9,572 GWh (12,866 MW) during Oct'23, compared to 10,705 GWh (14,388 MW) during Oct'22. On MoM basis, generation also decreased by 28.2%. During 4MFY24, power generation increased by 3.7% YoY to 53,710 GWh (18,195 MW) compared to 51,786 GWh (17,543 MW) during 4MFY23.
- Power generation during Oct'23 (including T&D losses) remained 17.1% lower (8,189 GWh, 11,007 MW) than the reference generation (9,879 GWh, 13,278 MW). The decline in generation will increase the capacity charges for 2QFY24 QTA.
- Major contributors during Oct'23 were Hydel (share: 32.5%), RLNG (share: 20.3%), Nuclear (share: 19.1%), Local Coal (share: 13.9%), Gas (share: 7.4%), Imported Coal (3.5%), Wind (share: 2.0%), Solar (share: 0.8%), and Bagasse (share: 0.3%). The FO-based generation during Oct'23 remained at almost zero.
- The load factor of CPHGC remained zero during Oct'23 compared to 31% during Oct'22. The plant dispatched no electricity because of lower demand from power purchasers, we view. The overall load factor of imported coal-based power plants remained 10% during the month compared to 34% during the same period last year. The load factor of TEL and TNPL remained at 36% and 81% during Oct'23, respectively, and the overall load factor of local coal-based plants remained at 68%.
- The hydel-based generation decreased by 1% YoY to 3,114 GWh during Oct'23. The downturn in the generation has been witnessed due to a 21% YoY decline in generation from Terbela 4th extension along with a 4% decline in generation from WAPDA. However, the resumption of Neelam Jhelum cautioned/ the overall decline.

Exhibit: Historical Generation during the month of October



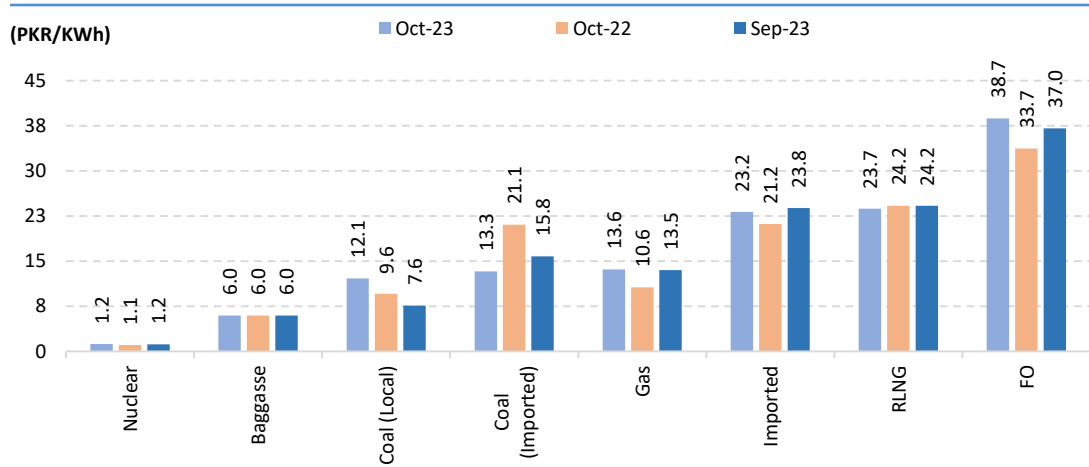
Source (s): NEPRA, AHL Research

Pakistan Power Sector

The cost of Power Generation decreased by 8.4% YoY during Oct'23

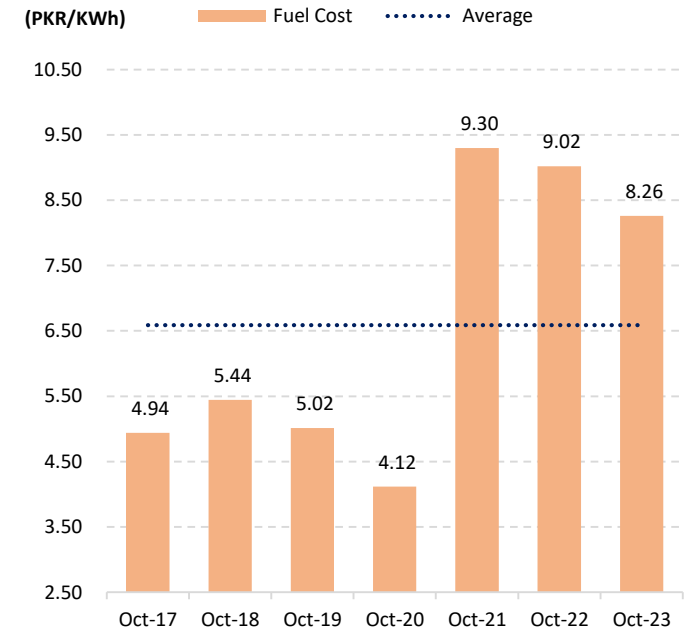
- The cost of power generation decreased by 8.4% YoY to PKR 8.26/KWh during Oct'23 while including transmission losses and previous adjustments, it has witnessed at PKR 11.43/KWh. On this basis, there is a projected rise of PKR 3.53/KWh in fuel charge adjustment which will be charged from customers with the Dec'23 bills. The YoY decline was witnessed during Oct'23 which was led by the following reasons;
 - Imported coal-based cost of generation decreased by 37% YoY. The decline in cost is witnessed due to a 34% YoY decline in coal prices.
 - RLNG-based cost of generation also declined by 2% YoY to PKR 23.70/KWh.

Exhibit: Source wise fuel cost during Oct'22, Sep'23 and Oct'23



Source (s): NEPRA, AHL Research

Exhibit: Historical Trend of Fuel Cost during October



Source (s): NEPRA, AHL Research

Pakistan Power Sector

Fuel Cost Trend

Exhibit: Source wise Fuel Cost

	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
PKR/KWh													
FO	33.70	24.18	25.80	28.97	21.67	21.28	23.14	23.24	26.10	28.73	33.32	37.05	38.70
RLNG	24.22	20.28	20.21	21.91	23.36	24.31	23.83	24.46	24.07	24.43	23.71	24.19	23.70
Imported	21.18	21.18	21.56	25.66	24.73	23.39	23.45	23.53	23.63	23.62	25.10	23.80	23.17
Gas	10.65	10.62	10.50	9.59	10.07	11.26	11.86	12.46	11.74	13.68	13.22	13.52	13.61
Coal (Imported)	21.06	16.04	17.76	22.06	19.37	11.74	19.78	14.31	21.79	19.86	20.14	15.79	13.27
Coal (Local)	9.57	9.88	7.35	6.92	9.46	7.90	7.43	8.31	7.87	7.59	7.01	7.62	12.10
Baggasse	5.98	5.98	5.97	5.98	5.36	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
Nuclear	1.07	1.07	1.07	1.07	1.07	1.08	1.06	1.15	1.07	1.17	1.17	1.20	1.23
Mixed	4.60	4.05	3.28	6.04	6.01	5.27	4.06	5.66	6.29	-	-	-	-
HSD	-	-	-	-	-	-	-	-	30.45	-	-	-	-
Hydel	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar	-	3.79	-	-	-	-	-	-	-	-	-	-	-
Wind	-	-	-	-	-	-	-	-	-	-	-	-	-
Average	9.02	5.99	7.04	11.20	8.01	8.22	10.24	9.72	9.63	8.34	8.27	7.42	8.26

PKR mn

FO	5,277	256	1,004	13,420	2,336	862	5,151	5,600	19,427	8,461	21,632	8,914	3
RLNG	44,649	20,521	23,314	28,166	34,161	43,383	57,627	73,086	61,241	71,293	64,992	51,467	45,945
Imported	1,012	947	859	953	815	739	714	812	590	681	658	577	522
Gas	13,801	12,629	13,374	10,987	8,554	12,467	14,112	15,829	13,752	15,440	16,043	13,592	9,576
Coal (Imported)	24,427	7,520	10,754	32,513	6,634	3,190	14,090	10,896	23,544	13,938	14,489	10,173	4,461
Coal (Local)	4,751	5,002	6,730	6,710	7,082	8,384	8,222	10,804	10,654	11,226	11,478	11,270	16,147
Baggasse	226	417	604	607	536	627	486	448	398	239	226	206	172
Nuclear	2,356	2,493	2,451	2,014	2,010	2,163	2,022	1,771	1,991	2,458	2,392	2,738	2,241
Mixed	68	28	7	13	11	19	54	157	170	-	-	-	-
HSD	-	-	-	-	-	-	-	-	312	-	-	-	-
Hydel	-	-	-	-	-	-	-	-	-	-	-	-	-
Solar	-	299	-	-	-	-	-	-	-	-	-	-	-
Wind	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	96,567	50,111	59,096	95,383	62,140	71,834	102,478	119,402	132,078	123,736	131,910	98,940	79,066

Source (s): NEPRA, AHL Research

Pakistan Power Sector

Load Factor of Major Power Plants

Exhibit: Load Factor of Major Power Plants

	Capacity (MW)	Oct-23		Sep-23		Oct-22		
		Generation*	Load Factor	Generation*	Load Factor	Generation*	Load Factor	
RLNG Power Plants								
QATPL	1,180	396	45%	172	20%	670	76%	
Haveli Bahadur Shah	1,230	678	74%	563	64%	254	28%	
Balloki	1,223	583	64%	573	65%	724	80%	
Punjab Thermal Power	1,320	248	25%	442	47%	0	0%	
RLNG Total	4,953	1,905	52%	1,750	49%	1,649	45%	
Imported Coal Power Plants								
Sahiwal Power Plant	1,320	-	-	154	16%	175	18%	
Port Qasim Power Plant	1,320	49	5%	163	17%	311	32%	
China Power Hub Generation	1,320	-	-	77	8%	304	31%	
Lucky Electric Power Co. Ltd.	660	287	58%	250	53%	370	75%	
Imported Coal Total	4,620	336	10%	644	19%	1,160	34%	
Local Coal Power Plants								
Engro PowerGen Thar	660	258	53%	390	82%	341	70%	
Thar Energy Ltd.	330	200	81%	185	78%	155	63%	
Thar Coal Block-1 Power Gen Company	1,320	788	80%	729	77%	na	na	
ThalNova Power Thar	330	88	36%	175	74%	na	na	
Local Coal Total	2,640	1,334	68%	1,479	78%	497	67%	
Nuclear Power Plants								
Chashma Nuclear	300	196	88%	209	97%	195	87%	
Chashma Nuclear-II	315	225	96%	219	96%	199	85%	
Chashma Nuclear-III	340	234	92%	225	92%	224	88%	
Chashma Nuclear-IV	340	229	90%	218	89%	223	88%	
Karachi Nuclear Power Plant-2	1,140	260	31%	723	88%	654	77%	
Karachi Nuclear Power Plant-3	1,145	682	80%	692	84%	711	84%	
Nuclear Total	3,580	1,826	69%	2,286	89%	2,206	83%	
Major Listed IPPs								
KAPCO	1,336	-	-	-	-	36	4%	
HUBC (Hub Plant)	1,281	-	-	-	-	-	-	
HUBC (Narowal Plant)	214	-	-	31	20%	15	9%	
NPL	195	0	0.05%	57	40%	14	9%	
NCPL	196	-	-	23	16%	9	6%	
KOHE	124	-	-	44	49%	14	15%	
LPL	350	-	-	-	0%	14	5%	
PKGP	345	-	-	3	1%	8	3%	
ALTN (Rousch)	395	-	-	-	-	-	-	
ALTN (Altern)	27	-	-	-	-	-	-	
SPWL	204	-	-	26	17%	50	33%	
EPQL	213	28	17%	66	43%	58	36%	

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

Pakistan Power Sector

Power Generation is up by 3.7% YoY during 4MFY24

Exhibit: Source wise Power Generation

GWh	Oct-23	Oct-22	YoY	Sep-23	MoM	4MFY24	4MFY23	YoY
Hydel	3,114	3,144	-1%	5,009	-38%	19,646	17,878	10%
RLNG	1,939	1,844	5%	2,128	-9%	9,725	7,540	29%
Nuclear	1,826	2,206	-17%	2,286	-20%	8,260	8,355	-1%
Coal (Local)	1,334	497	169%	1,479	-10%	5,929	1,837	223%
Gas	704	1,296	-46%	1,005	-30%	4,051	5,283	-23%
Coal (Imported)	336	1,160	-71%	644	-48%	2,401	5,234	-54%
Wind	191	222	-14%	410	-53%	1,955	1,598	22%
Solar	76	79	-4%	79	-4%	314	305	3%
Bagasse	29	38	-24%	35	-17%	141	146	-3%
Imported	23	48	-53%	24	-7%	102	202	-50%
FO	0	157	nm	241	nm	1,184	3,135	-62%
HSD	-	-	nm	-	nm	-	206	nm
Mixed	-	15	nm	-	nm	-	65	nm
Total	9,572	10,705	-10.6%	13,339	-28.2%	53,709	51,786	3.7%
<i>Fuel Cost*</i>	<i>8.26</i>	<i>9.02</i>	<i>-8.4%</i>	<i>7.42</i>	<i>11.4%</i>	<i>8.07</i>	<i>9.99</i>	<i>-19.1%</i>

Source (s): NEPRA, AHL Research

Exhibit: Source Wise Share

	Oct-23	Oct-22	Sep-23	4MFY24	4MFY23
Hydel	32.5%	29.4%	37.5%	36.6%	34.5%
RLNG	20.3%	17.2%	16.0%	18.1%	14.6%
Nuclear	19.1%	20.6%	17.1%	15.4%	16.1%
Coal (Local)	13.9%	4.6%	11.1%	11.0%	3.5%
Gas	7.4%	12.1%	7.5%	7.5%	10.2%
Coal (Imported)	3.5%	10.8%	4.8%	4.5%	10.1%
Wind	2.0%	2.1%	3.1%	3.6%	3.1%
Solar	0.8%	0.7%	0.6%	0.6%	0.6%
Bagasse	0.3%	0.4%	0.3%	0.3%	0.3%
Imported	0.2%	0.4%	0.2%	0.2%	0.4%
FO	0.0%	1.5%	1.8%	2.2%	6.1%
HSD	0.0%	0.0%	0.0%	0.0%	0.4%
Mixed	0.0%	0.1%	0.0%	0.0%	0.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source (s): NEPRA, AHL Research

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