

June 25, 2021

Monthly Power Generation Data

May-21: Generation up by +8%YoY; FO plants moved down in merit order list

As per latest data available on NEPRA's website, overall power generation during the month of May-21 increased by +8%YoY to 13,010Gwh. Power production through RFO/Coal/Gas & LNG clocked in at 771/2,619/4,283Gwh up by +5.9x/+20%/+14%YoY, during May-21. Generation through Hydel dropped by 22%YoY. Generation is up by +24%MoM during May-21 compared to Apr-21.

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- This brings total generation for 11MFY21 to 115,862Gwh up by +7%YoY primarily led by +44%/+8%/+7%/+2%YoY incline in production through RFO/Gas & LNG/Coal/Hydel contributing 4%/32%/22%/30% of the total power generation during 11MFY21.
- **RFO:** Power generation through RFO in May-21 leaped up by +5.9xYoY (up by 642Gwh) to 771Gwh, owing to higher generation from Narowal, Liberty, Atlas, AES Lalpir, Nishat Chunian, Pakgen and Nishat Power, cumulatively contributing 452Gwh. This brings total generation for 11MFY21 to 5,097Gwh up by +44%YoY owing to higher generation from Atlas, KAPCO Block I, Attock Gen, Lalpir, Pakgen, Atlas, Nishat Chunian and Nishat Power.
- **Gas:** Gas/LNG based power generation increased by +14%YoY (535Gwh) to 4,283Gwh in May-21 on the back of higher generation from GENCO II (contributing 137Gwh), Haveli Sapphire (up by 97Gwh) and, smaller IPPs (contributing 301Gwh). This brings total generation in 11MFY21 to 37,271Gwh up by +8%YoY led by higher generation from QATPL, Baloki, Haveli Bahadurshah and other smaller IPPs

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- **Coal:** Coal based power generation inclined by +20%YoY (430Gwh) to 2,619Gwh during May-21 on the back of higher generation from CPHGC, Coal Fired Power Plant and Engro PowerGen Thar (up by 623Gwh) while generation from Port Qasim declined during the month of May-21. For 11MFY21 generation is up by +7%YoY to 24,958Gwh led by higher generation from CPHGC and Coal Fired Power Plant (Huaneng Shandong Ruyi Energy (Pvt) Ltd) while lower generation from Engro and Port Qasim.
- **Generation cost on RFO up by +47%YoY to PKR 14.3/Kwh during May-21:** As per NEPRA, power cost on RFO during May-21 is up by +47%YoY (up by +19%MoM) to PKR 14.34/Kwh. However, gas price increased to PKR 7.85/Kwh up by +27%YoY while generation cost through LNG stood PKR 10.05/Kwh, up by +4%YoY or up +2%MoM.
- **FO and LNG plants remained relatively unchanged in merit order list during May-21:** FO and RLNG plants remained mixed in merit order list as cost of generation was up +2%MoM for LNG while FO increased by +19%MoM compared to Apr-21. FO plants moved down due to -2%MoM decline in cost of generation for coal based plants. However, during Jun-21 most of the FO plants moved down the merit order list while some LNG plants also moved down merit order list compared to May-21.
- **Outlook:** As a result increase in prices and depleting gas reserves, FO plants have moved up in the merit order list. RFO plants are likely to remain up in the merit order list as summer approaches while generation through gas is also likely to pick up as demand from domestic sector reduces post winters. Generation through coal is likely to remain strong owing to lowest cost of generation, however, recent spike in coal prices have led to rise in generation cost on coal. LNG based power generation may gain further traction from 2022 onwards as new LNG contract at lower prices comes in to effect.

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Exhibit: Power Generation Mix (May-21)

GWH	May-21	May-20	YoY	Apr-21	MoM	11MFY21	11MFY20	YoY
Hydel	3,465	4,457	-22%	2,573	35%	34,581	33,883	2%
RFO	771	130	5.9x	148	5.2x	5,097	3,532	44%
Gas	1,454	1,014	43%	1,278	14%	13,036	13,627	-4%
LNG	2,829	2,734	3%	2,572	10%	24,235	21,005	15%
HSD	20	0	n/m	0	n/m	356	1	531x
Coal	2,619	2,189	20%	2,440	7%	24,958	23,397	7%
Others	1,850	1,493	24%	1,471	26%	13,600	13,135	4%
Total	13,010	12,017	8%	10,481	24%	115,862	108,580	7%

Source: IGI Research, NEPRA

Exhibit: Cost of generation on FO, Coal, LNG and Gas (According to Data released by NEPRA)

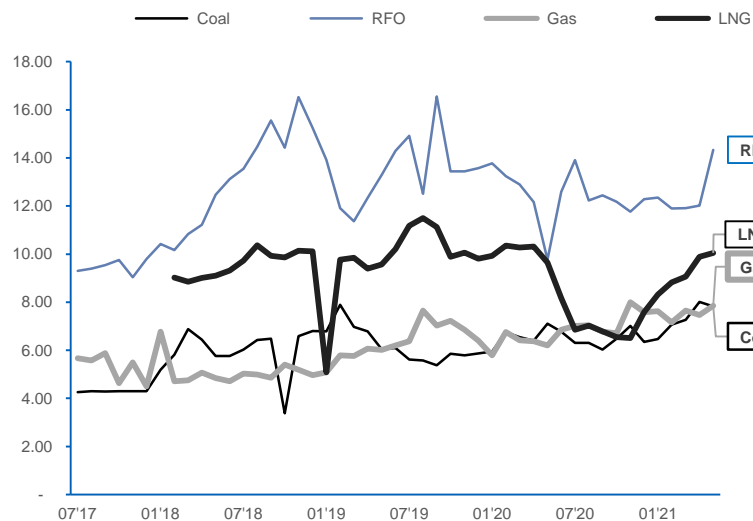
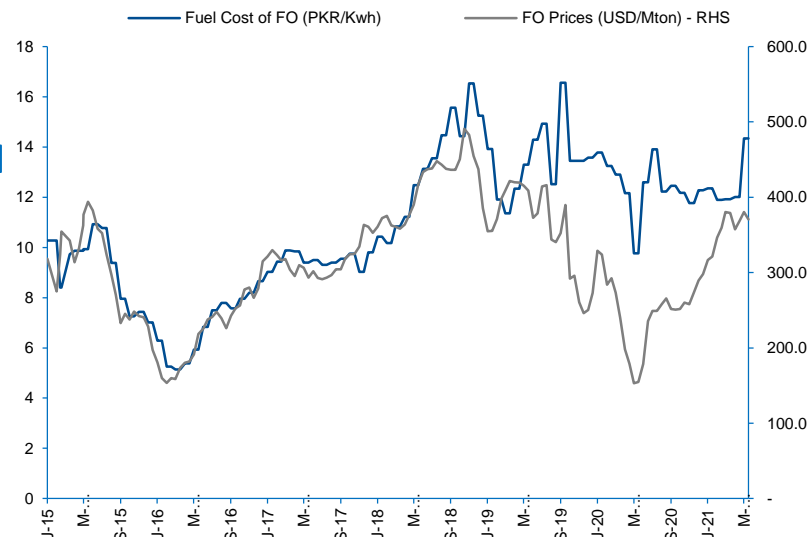


Exhibit: FO Prices (USD/Mton) and Fuel Prices (PKR/Mton)



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Exhibit: Fuel wise generation mix (%)

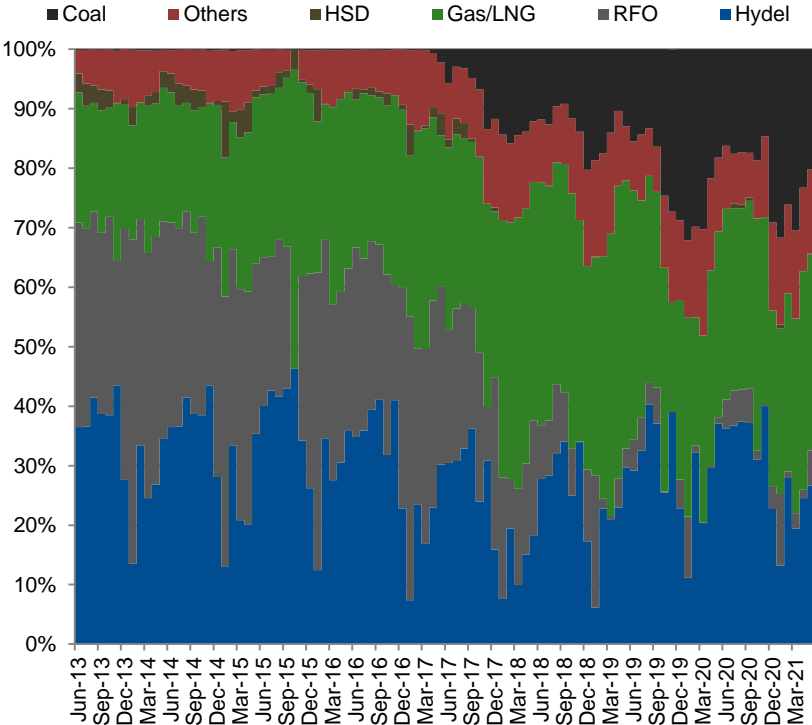
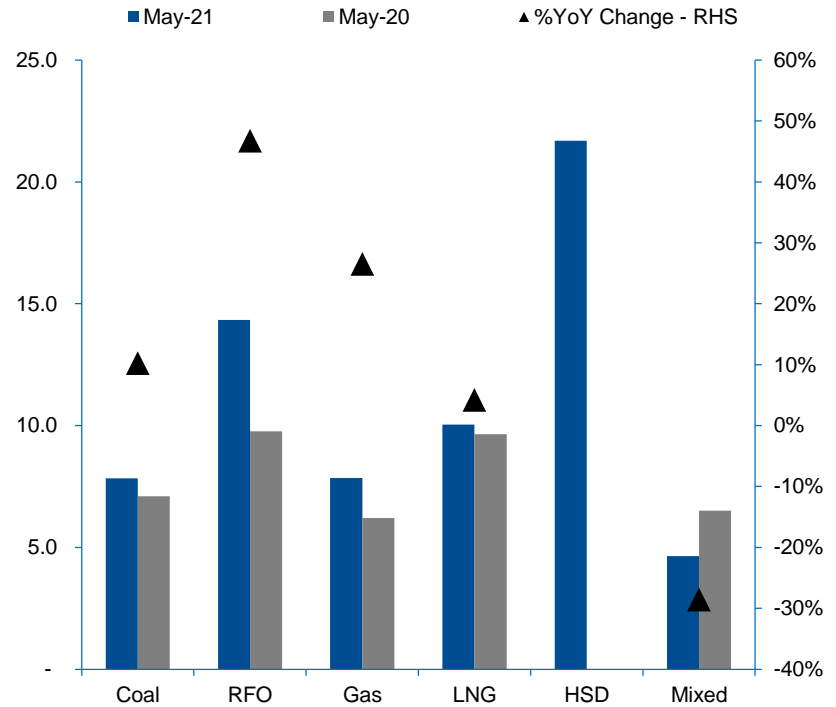


Exhibit: Fuel wise cost of generation – May-21 (PKR/Kwh)



Source: NEPRA, Bloomberg, IGI Research

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Exhibit: Pakistan Merit Order list

Plant	Fuel Type	Capacity (MW)	Merit Order List													
			16-Jun-21	1-Jun-21	21-May-21	16-May-21	1-May-21	16-Apr-21	1-Apr-21	Mar-21	Dec-20	Jun-20	Dec-19	Jul-19	Dec-18	Jul-18
Hub Plant	RFO	1200	79	86	90	91	91	92	93	90	96	108	98	82	89	70
Narowal	RFO	214	95	51	54	54	51	54	55	54	63	86	70	76	70	58
Nishat Power	RFO	195	53	56	51	51	64	53	54	53	65	101	72	70	65	63
Nishat Chunian	RFO	196	80	53	57	57	54	51	51	50	66	84	71	66	64	64
Lalpir	RFO	350	96	78	99	99	58	60	64	68	54	70	83	81	69	76
Pakgen	RFO	349	94	83	97	84	63	62	94	58	64	87	90	79	76	79
Attock Gen	RFO	156	60	68	68	68	67	72	74	72	52	38	24	75	52	68
Kohinoor Energy	RFO	124	73	69	70	70	60	56	59	56	58	79	51	65	66	69
Saba Power	RFO	126	88	62	53	53	52	69	68	69	70	89	88	78	71	74
Atlas Power	RFO	214	47	47	49	49	49	52	53	52	60	82	69	68	62	65
Gulf Powergen	RFO	62	-	-	-	-	-	-	-	-	-	62	41	43	37	44
Liberty	RFO	196	67	76	62	62	55	50	50	49	67	63	66	56	61	56
CPHGC	Coal	1220	5	4	4	4	4	4	5	5	5	9	6	-	-	-
Engro Power Thar	Coal	660	3	3	3	3	3	3	3	3	3	3	3	4	-	-
Port Qasim	Coal	1320	7	7	7	7	5	5	4	4	4	8	5	6	9	15
Sahiwal Coal	Coal	1320	21	21	23	23	20	20	20	19	7	19	9	16	24	25
QATPL	RLNG	1180	29	27	20	20	22	21	21	21	19	7	23	39	33	31
Haveli Bahdur Shah	RLNG	1230	20	20	18	18	18	18	18	18	16	5	21	36	31	29
Baloki	RLNG	1320	24	22	19	19	19	19	19	20	17	6	22	38	32	30
Halmore	RLNG	199	39	38	37	37	37	37	37	37	33	13	43	49	40	37
Saphire	RLNG	203	37	37	36	36	36	36	36	35	32	14	42	47	38	35
Saif	RLNG	204	40	39	38	38	38	38	38	38	34	15	44	48	39	36
Orient	RLNG	213	36	36	35	35	35	35	34	35	29	12	39	45	36	33
Davis	RLNG	10	65	70	64	64	68	66	63	65	59	42	86	84	74	67
Rousch	RLNG	395	48	48	44	44	44	44	42	44	40	22	53	54	54	45
Nandipur	RLNG	411	42	41	39	39	39	39	39	39	35	16	33	42	34	32
FKPCL	Gas	151	57	59	55	55	56	57	56	57	49	30	62	65	49	34

Source: NEPRA, Bloomberg, IGI Research

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Exhibit: Fuel cost of IPPs

			Fuel Cost (PKR/Kwh)											
Fuel Type	Capacity (MW)		16-Jun-21	1-Jun-21	21-May-21	16-May-21	1-May-21	16-Apr-21	1-Apr-21	Mar-21	Dec-20	Jun-20	Dec-19	Jul-19
Hub Plant	RFO	1200	17.54	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.30	17.14	17.41	17.44
Narowal	RFO	214	17.29	12.07	11.73	11.73	11.96	11.96	11.96	11.96	12.47	13.08	13.74	14.95
Nishat Power	RFO	195	12.65	12.65	11.79	11.79	12.84	11.79	11.79	11.79	12.61	14.86	13.74	14.34
Nishat Chunian	RFO	196	16.54	12.43	12.30	12.30	12.14	11.59	11.59	11.59	12.62	12.61	13.62	13.63
Lalpir	RFO	350	18.73	16.91	18.69	18.69	13.48	13.48	14.56	14.87	12.40	12.83	16.12	16.97
Pakgen	RFO	349	18.40	17.38	18.51	16.77	13.95	13.95	17.77	13.48	13.53	14.33	16.40	16.31
Attock Gen	RFO	156	13.61	14.23	14.07	14.07	13.25	14.25	14.55	14.26	11.03	8.64	8.58	14.46
Kohinoor Energy	RFO	124	16.13	14.80	14.66	14.66	12.80	12.32	12.80	12.56	12.56	12.60	12.10	14.18
Saba Power	RFO	126	18.26	14.75	13.05	13.05	13.05	15.08	15.08	15.08	14.05	14.68	16.36	16.06
Atlas Power	RFO	214	11.51	11.51	11.51	11.59	11.53	11.76	11.76	11.76	12.18	12.30	13.50	14.05
Gulf Powergen	RFO	62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.85	9.85	9.85
Liberty	RFO	196	14.88	15.57	12.91	12.91	11.99	11.38	11.38	11.38	12.57	10.52	13.12	12.84
CPHGC	Coal	1220	6.36	5.83	5.83	5.83	5.09	5.09	5.30	5.30	4.64	5.93	5.54	0.00
Engro Power Thar	Coal	660	2.49	2.54	2.59	2.59	2.59	2.59	2.60	2.60	2.69	2.14	2.08	3.68
Port Qasim	Coal	1320	7.01	7.01	7.01	7.01	5.80	5.80	4.91	4.91	4.43	6.11	5.09	5.46
Sahiwal Coal	Coal	1320	9.43	9.37	9.37	9.37	9.03	9.03	8.82	8.82	6.87	7.69	6.88	7.17
QATPL	RLNG	1180	9.49	9.37	8.80	8.80	8.87	8.79	8.64	8.86	7.96	5.70	9.38	10.03
Haveli Bahdur Shah	RLNG	1230	9.40	9.28	8.72	8.72	8.78	8.70	8.56	8.78	7.88	5.65	9.25	9.89
Baloki	RLNG	1320	9.47	9.35	8.78	8.78	8.85	8.77	8.63	8.85	7.94	5.69	9.37	10.02
Halmore	RLNG	199	11.57	11.43	10.73	10.73	10.82	10.72	10.54	10.81	9.71	6.97	11.46	12.07
Saphire	RLNG	203	11.57	11.43	10.73	10.73	10.81	10.72	10.54	10.81	9.71	6.98	11.46	12.07
Saif	RLNG	204	11.58	11.43	10.74	10.74	10.82	10.72	10.55	10.82	9.71	6.99	11.49	12.07
Orient	RLNG	213	11.58	11.43	10.74	10.70	10.82	10.72	10.55	10.82	9.71	6.98	11.49	12.07
Davis	RLNG	10	15.12	14.95	14.07	14.07	14.16	14.02	13.79	14.14	12.70	9.55	15.78	17.10
Rousch	RLNG	395	12.75	12.59	11.82	11.82	11.91	11.80	11.61	11.91	10.69	7.69	12.65	13.69
Nandipur	RLNG	411	11.74	11.59	10.88	10.88	10.97	10.87	10.69	10.96	9.84	7.08	10.52	11.38
FKPCL	Gas	151	13.25	13.08	12.29	12.29	12.38	12.27	12.07	12.38	11.09	7.99	13.14	13.06

Source: NEPRA, Bloomberg, IGI Research

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