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Monthly Power Generation Data

Jun-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 Jun-21 increased by +8%YoY to 14,361Gwh. Power production through RFO/Coal clocked in at 1,174/2,590Gwh up by +82%/+20%YoY, during Jun-21. Generation through Hydel/Gas & LNG dropped by 22%/6%YoY. Generation is up by +10%MoM during Jun-21 compared to May-21.

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- This brings total generation for FY21 to 130,223Gwh up by +7%YoY primarily led by +50%/+8%/+6%YoY incline in production through RFO/Coal/Gas & LNG contributing 5%/21%/32% of the total power generation during FY21.
- **RFO:** Power generation through RFO in Jun-21 leaped up by +82%YoY (up by 528Gwh) to 1,174Gwh, owing to higher generation from Hub Plant, Narowal, Liberty, Saba Power, Atlas, AES Lalpir, Nishat Chunian, Pakgen and Nishat Power, cumulatively contributing 439Gwh. This brings total generation for FY21 to 6,271Gwh up by +50%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 dropped by 6%YoY (257Gwh) to 4,005Gwh in Jun-21 on the back of lower generation from GENCO II (contributing 255Gwh), KAPCO Block-I (down by 62Gwh) and Baloki (297Gwh), while generation from smaller IPPs increased (contributing 425Gwh). This brings total generation in FY21 to 41,276Gwh up by +6%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 (434Gwh) to 2,590Gwh during Jun-21 on the back of higher generation from CPHGC, Coal Fired Power Plant and Port Qasim (up by 485Gwh) while generation from Engro Powergen Thar declined during the month of Jun-21. For FY21 generation is up by +7%YoY to 27,548Gwh 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 +15%YoY to PKR 14.5/Kwh during Jun-21:** As per NEPRA, power cost on RFO during Jun-21 is up by +15%YoY (up by +1%MoM) to PKR 14.53/Kwh. However, gas price increased to PKR 8.17/Kwh up by +19%YoY while generation cost through LNG stood at PKR 10.58/Kwh, up by +29%YoY or up +5%MoM.
- **FO and LNG plants remained mixed in merit order list during Jun-21:** FO plants remained mixed in merit order list as cost of generation was up +1%MoM while for LNG plants moved down in the merit order list as cost increased by +5%MoM compared to May-21. However, during Jul-21 most of the FO plants moved up in the merit order list while coal plants moved down merit order list compared to Jun-21 as international coal prices have increased substantially. LNG plants also moved down in the merit order list for a second consecutive month.
- **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 (Jun-21)

GWH	Jun-21	Jun-20	YoY	May-21	MoM	FY21	FY20	YoY
Hydel	4,222	4,817	-12%	3,465	22%	38,804	38,700	0%
RFO	1,174	647	82%	771	52%	6,271	4,178	50%
Gas	1,304	1,436	-9%	1,454	-10%	14,340	15,064	-5%
LNG	2,701	2,826	-4%	2,829	-4%	26,936	23,831	13%
HSD	61	0	n/m	20	202%	417	1	622x
Coal	2,590	2,156	20%	2,619	-1%	27,548	25,553	8%
Others	2,309	1,406	64%	1,850	25%	15,908	14,542	9%
Total	14,361	13,288	8%	13,010	10%	130,223	121,868	7%

Source: IGI Research, NEPRA

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

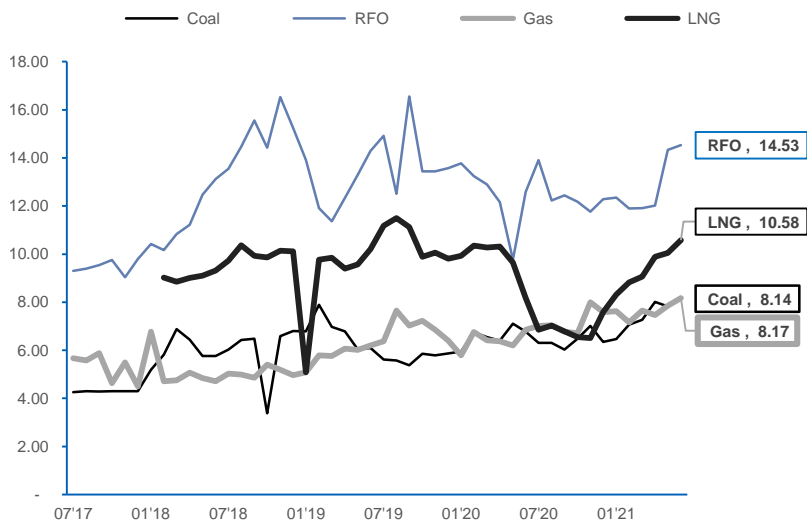
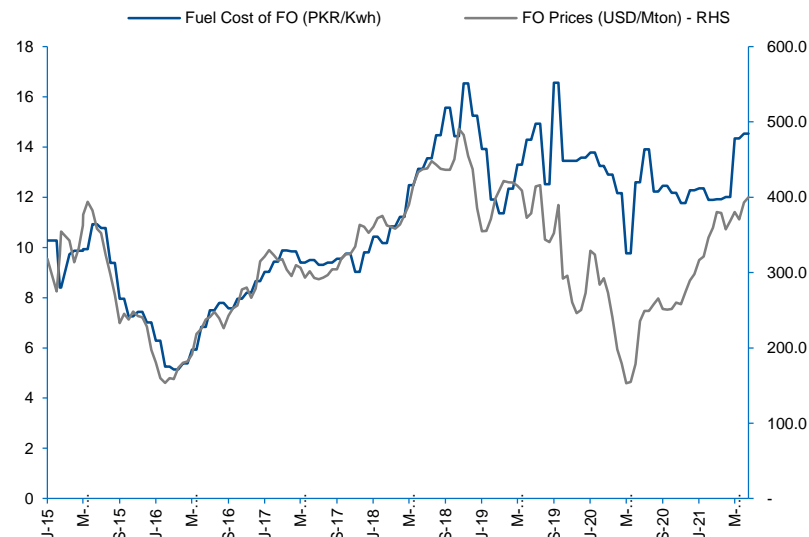


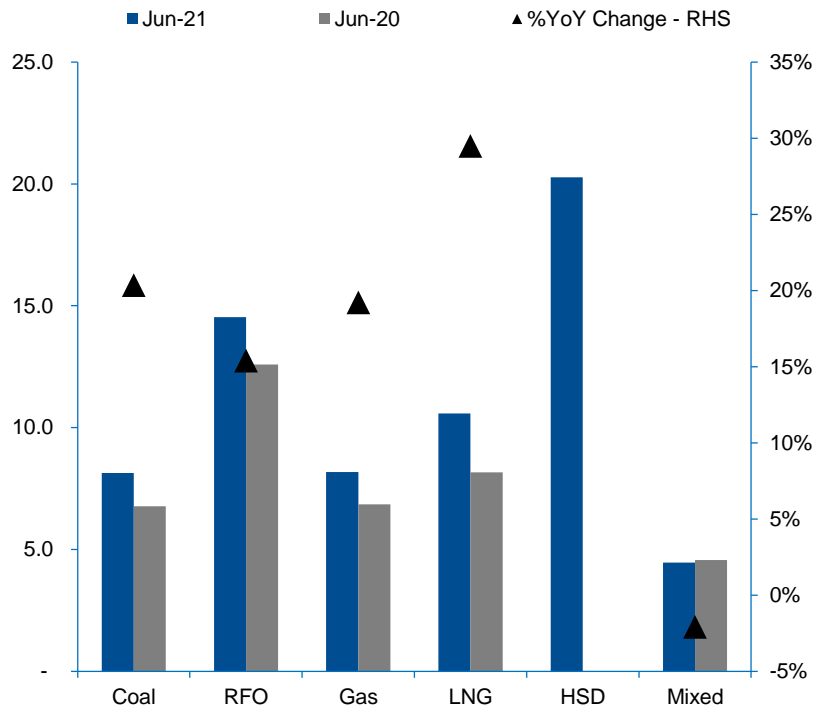
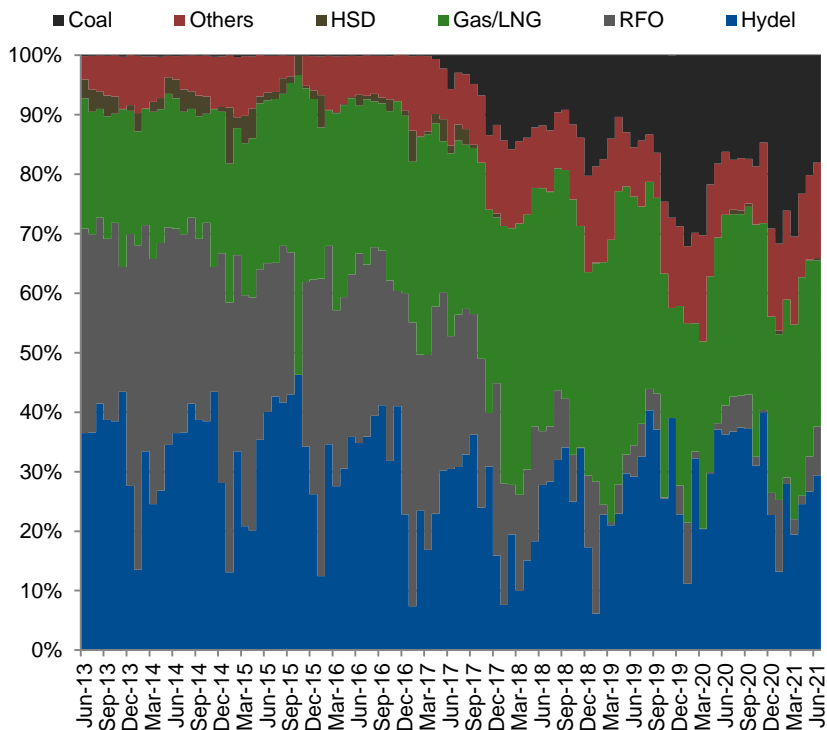
Exhibit: FO Prices (USD/Mton) and Fuel Prices (PKR/Mton)



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Exhibit: Fuel wise generation mix (%)

Exhibit: Fuel wise cost of generation – Jun-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-Jul-21	1-Jul-21	Jun-21	Mar-21	Dec-20	Jun-20	Dec-19	Jul-19	Dec-18	Jul-18
Hub Plant	RFO	1200	67	71	79	90	96	108	98	82	89	70
Narowal	RFO	214	61	72	95	54	63	86	70	76	70	58
Nishat Power	RFO	195	88	49	53	53	65	101	72	70	65	63
Nishat Chunian	RFO	196	52	68	80	50	66	84	71	66	64	64
Lalpir	RFO	350	87	75	96	68	54	70	83	81	69	76
Pakgen	RFO	349	72	86	94	58	64	87	90	79	76	79
Attock Gen	RFO	156	58	63	60	72	52	38	24	75	52	68
Kohinoor Energy	RFO	124	66	62	73	56	58	79	51	65	66	69
Saba Power	RFO	126	75	85	88	69	70	89	88	78	71	74
Atlas Power	RFO	214	56	45	47	52	60	82	69	68	62	65
Gulf Powergen	RFO	62	-	-	-	-	-	62	41	43	37	44
Liberty	RFO	196	50	65	67	49	67	63	66	56	61	56
CPHGC	Coal	1220	6	5	5	5	5	9	6	-	-	-
Engro Power Thar	Coal	660	3	3	3	3	3	3	3	4	-	-
Port Qasim	Coal	1320	11	7	7	4	4	8	5	6	9	15
Sahiwal Coal	Coal	1320	28	20	21	19	7	19	9	16	24	25
QATPL	RLNG	1180	37	29	29	21	19	7	23	39	33	31
Haveli Bahdur Shah	RLNG	1230	33	23	20	18	16	5	21	36	31	29
Baloki	RLNG	1320	34	25	24	20	17	6	22	38	32	30
Halmore	RLNG	199	41	38	39	37	33	13	43	49	40	37
Sapphire	RLNG	203	40	37	37	35	32	14	42	47	38	35
Saif	RLNG	204	42	39	40	38	34	15	44	48	39	36
Orient	RLNG	213	39	35	36	35	29	12	39	45	36	33
Davis	RLNG	10	70	64	65	65	59	42	86	84	74	67
Rousch	RLNG	395	54	46	48	44	40	22	53	54	54	45
Nandipur	RLNG	411	43	40	42	39	35	16	33	42	34	32
FKPCL	Gas	151	64	52	57	57	49	30	62	65	49	34

Source: NEPRA, Bloomberg, IGI Research

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Exhibit: Fuel cost of IPPs

	Fuel Type	Capacity (MW)	Fuel Cost (PKR/Kwh)							
			16-Jul-21	1-Jul-21	Jun-21	Mar-21	Dec-20	Jun-20	Dec-19	Jul-19
Hub Plant	RFO	1200	16.67	17.02	17.54	17.63	17.30	17.14	17.41	17.44
Narawal	RFO	214	15.82	15.78	17.29	11.96	12.47	13.08	13.74	14.95
Nishat Power	RFO	195	20.31	12.65	12.65	11.79	12.61	14.86	13.74	14.34
Nishat Chunian	RFO	196	15.06	15.15	16.54	11.59	12.62	12.61	13.62	13.63
Lalpir	RFO	350	21.44	17.56	18.73	14.87	12.40	12.83	16.12	16.97
Pakgen	RFO	349	20.53	18.57	18.40	13.48	13.53	14.33	16.40	16.31
Attock Gen	RFO	156	15.63	14.78	13.61	14.26	11.03	8.64	8.58	14.46
Kohinoor Energy	RFO	124	17.91	15.28	16.13	12.56	12.56	12.60	12.10	14.18
Saba Power	RFO	126	20.82	18.54	18.26	15.08	14.05	14.68	16.36	16.06
Atlas Power	RFO	214	15.32	11.51	11.51	11.76	12.18	12.30	13.50	14.05
Gulf Powergen	RFO	62	0.00	0.00	0.00	0.00	0.00	9.85	9.85	9.85
Liberty	RFO	196	14.67	14.75	14.88	11.38	12.57	10.52	13.12	12.84
CPHGC	Coal	1220	6.44	6.36	6.36	5.30	4.64	5.93	5.54	0.00
Engro Power Thar	Coal	660	2.50	2.49	2.49	2.60	2.69	2.14	2.08	3.68
Port Qasim	Coal	1320	7.40	7.01	7.01	4.91	4.43	6.11	5.09	5.46
Sahiwal Coal	Coal	1320	10.17	9.43	9.43	8.82	6.87	7.69	6.88	7.17
QATPL	RLNG	1180	12.08	9.57	9.49	8.86	7.96	5.70	9.38	10.03
Haveli Bahdur Shah	RLNG	1230	11.99	9.50	9.40	8.78	7.88	5.65	9.25	9.89
Baloki	RLNG	1320	12.06	9.55	9.47	8.85	7.94	5.69	9.37	10.02
Halmore	RLNG	199	14.74	11.67	11.57	10.81	9.71	6.97	11.46	12.07
Saphire	RLNG	203	14.74	11.67	11.57	10.81	9.71	6.98	11.46	12.07
Saif	RLNG	204	14.75	11.68	11.58	10.82	9.71	6.99	11.49	12.07
Orient	RLNG	213	14.75	11.68	11.58	10.82	9.71	6.98	11.49	12.07
Davis	RLNG	10	19.29	15.37	15.12	14.14	12.70	9.55	15.78	17.10
Rousch	RLNG	395	16.23	12.86	12.75	11.91	10.69	7.69	12.65	13.69
Nandipur	RLNG	411	14.94	11.83	11.74	10.96	9.84	7.08	10.52	11.38
FKPCL	Gas	151	16.87	13.36	13.25	12.38	11.09	7.99	13.14	13.06

Source: NEPRA, Bloomberg, IGI Research

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