

May 6, 2021

Monthly Power Generation Data

Mar-21: Generation up by +30%YoY; LNG and FO plants remained relatively unchanged in merit order list

As per latest data available on NEPRA's website, overall power generation during the month of Mar-21 increased by +30%YoY to 8,965Gwh. Power production through RFO/Gas&LNG/Coal/Hydel clocked in at 235/2,929/2,734/1,741Gwh up by +126x/+35%/+31%/+24%YoY, during Mar-21. Generation is up by +23%MoM during Mar-21 compared to Feb-21.

- This brings total generation for 9MFY21 to 92,371Gwh up by +5%YoY primarily led by +24%/+6%/+4%/+3%YoY incline in production through RFO/Hydel/Gas&LNG/Coal contributing 5%/30%/32%/22% of the total power generation during 9MFY21.
- **FO:** Power generation through RFO in Mar-21 leaped up by +126xYoY (up by 233Gwh) to 235Gwh, owing to higher generation from Liberty, Atlas, Nishat Chunian and Nishat Power, cumulatively contributing 143Gwh. This brings total generation for 9MFY21 to 4,177Gwh up by +24%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 +35%YoY (755Gwh) to 2,929Gwh in Mar-21 on the back of higher generation from Haveli Bahadurshah (contributing 529Gwh) and, Baloki (up by 240Gwh) while generation from other smaller IPPs declined during the month of Mar-21. This brings total generation in 9MFY21 to 29,138Gwh up by +4%YoY led by higher generation from QATPL, Baloki, Haveli Bahadurshah and other smaller IPPs

Analyst

Abdullah FarhanAbdullah.farhan@igi.com.pk

Tel: (+92 21) 111-234-234 Ext: 912

May 6, 2021

- **Coal:** Coal based power generation inclined by +31%YoY (642Gwh) to 2,734Gwh during Mar-21 on the back of higher generation from CPHGC, Coal Fired Power Plant and Port Qasim (up by 668Gwh) while generation from Engro declined during the month of Mar-21. For 9MFY21 generation is up by +3%YoY to 19,899Gwh led by higher generation from CPHGC and Coal Fired Power Plant (Huaneng Shandong Ruyi Energy (Pvt) Ltd) while lower generation from other plants.
- **Generation cost on RFO down by 8%YoY to PKR 11.9/Kwh during Mar-21:** As per NEPRA, power cost on RFO during Mar-21 is down by 8%YoY (flat on monthly basis) to PKR 11.92/Kwh. However, gas price increased to PKR 7.65/Kwh up by +19%YoY while generation cost through LNG stood PKR 9.07/Kwh, down by 12%YoY or up +3%MoM.
- **FO and LNG plants remained relatively unchanged in merit order list during Mar-21:** FO and RLNG plants remained relatively unchanged in merit order list as cost of generation was flat compared to Feb-21. Similarly, during Apr-21 only Lalpir moved up in the merit order list while other remained unchanged compared to Mar-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 while LNG based power generation may gain further traction from 2022 onwards as new LNG contract at lower prices comes in to effect

May 6, 2021

BRP 009

Exhibit: Power Generation Mix (Mar-21)

GWH	Feb-21	Feb-20	YoY	Jan-21	MoM	8MFY21	8MFY20	YoY
Hydel	1,741	1,407	24%	2,034	-14%	28,543	26,945	6%
RFO	235	2	126x	77	204%	4,177	3,371	24%
Gas	1,036	1,182	-12%	906	14%	10,303	11,724	-12%
LNG	1,893	993	91%	1,271	49%	18,835	16,397	15%
HSD	2,929	2,174	35%	2,177	35%	29,138	28,121	4%
Coal	-	-	n/m	-	n/m	335	1	500x
Others	2,734	2,093	31%	1,903	44%	19,899	19,385	3%
Total	1,326	1,234	7%	1,089	22%	10,278	10,351	-1%

Source: IGI Research, NEPRA

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

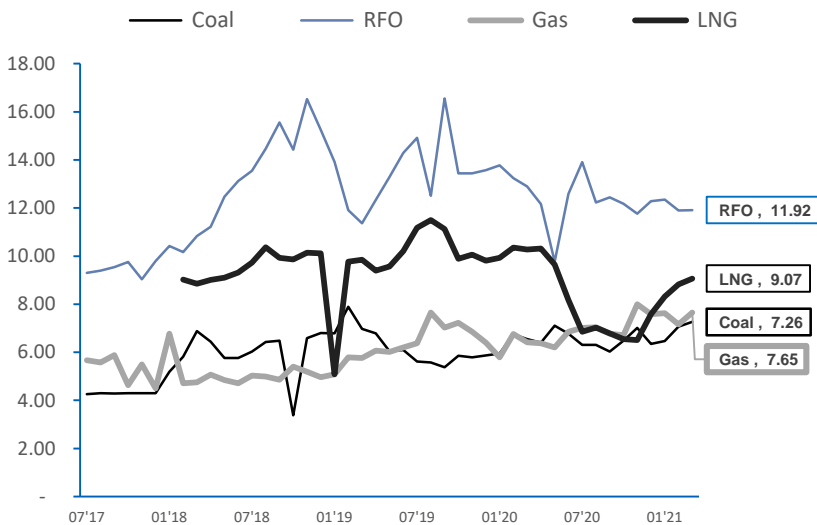
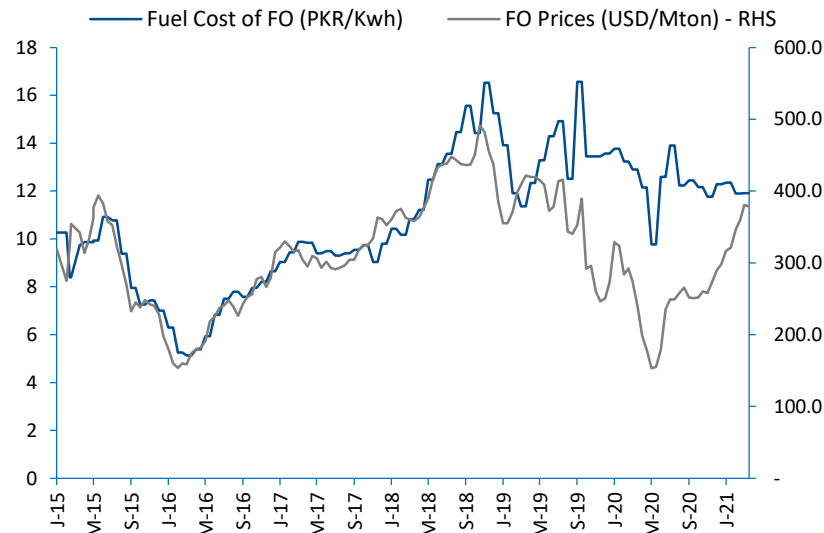


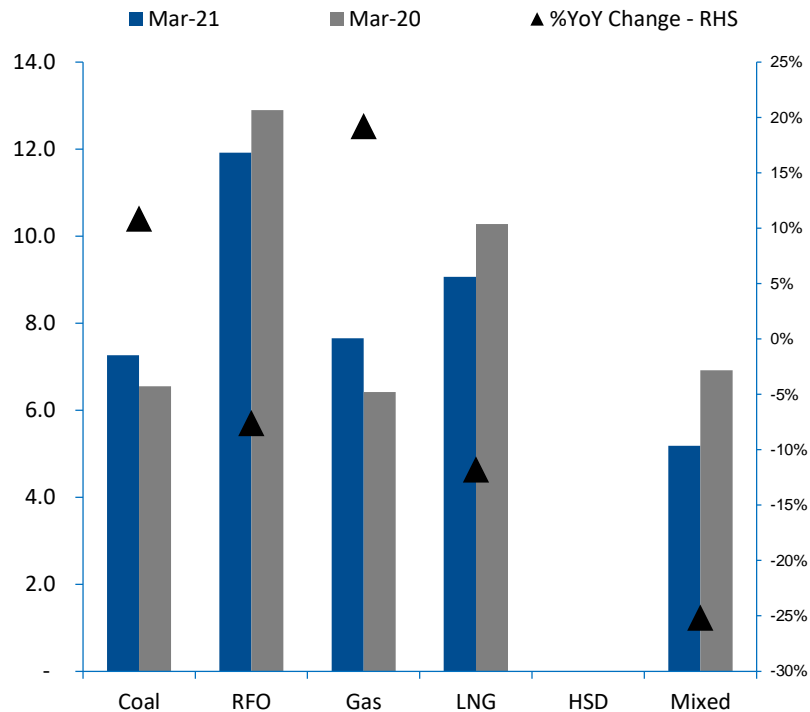
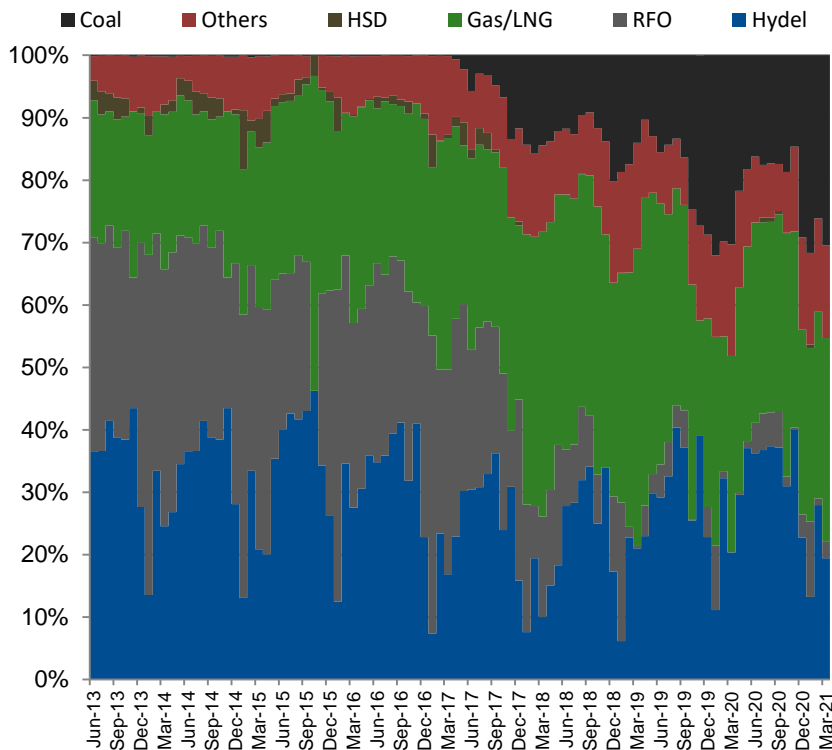
Exhibit: FO Prices (USD/Mton) and Fuel Prices (PKR/Mton)



May 6, 2021

Exhibit: Fuel wise generation mix (%)

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



Source: NEPRA, Bloomberg, IGI Research

May 6, 2021

BRP 009

Exhibit: Pakistan Merit Order list

Plant	Fuel Type	Capacity (MW)	Merit Order List										
			16-Apr-21	1-Apr-21	Mar-21	Dec-20	Sep-20	Jun-20	Mar-20	Dec-19	Jul-19	Dec-18	Jul-18
Hub Plant	RFO	1,200	92	93	90	96	106	108	85	98	82	89	70
Narawal	RFO	214	54	55	54	63	76	86	63	70	76	70	58
Nishat Power	RFO	195	53	54	53	65	79	101	70	72	70	65	63
Nishat Chunian	RFO	196	51	51	50	66	78	84	56	71	66	64	64
Lalpir	RFO	350	60	64	68	54	48	70	52	83	81	69	76
Pakgen	RFO	349	62	94	58	64	88	87	66	90	79	76	79
Attock Gen	RFO	156	72	74	72	52	54	38	21	24	75	52	68
Kohinoor Energy	RFO	124	56	59	56	58	84	79	48	51	65	66	69
Saba Power	RFO	126	69	68	69	70	74	89	69	88	78	71	74
Atlas Power	RFO	214	52	53	52	60	72	82	59	69	68	62	65
Gulf Powergen	RFO	62	-	-	-	-	59	62	39	41	43	37	44
Liberty	RFO	196	50	50	49	67	81	63	47	66	56	61	56
CPHGC	Coal	1,220	4	5	5	5	7	9	5	6	-	-	-
Engro Power Thar	Coal	660	3	3	3	3	3	3	3	3	4	-	-
Port Qasim	Coal	1,320	5	4	4	4	4	8	6	5	6	9	15
Sahiwal Coal	Coal	1,320	20	20	19	7	9	19	12	9	16	24	25
QATPL	RLNG	1,180	21	21	21	19	10	7	25	23	39	33	31
Haveli Bahdur Shah	RLNG	1,230	18	18	18	16	6	5	22	21	36	31	29
Baloki	RLNG	1,320	19	19	20	17	8	6	24	22	38	32	30
Halmore	RLNG	199	37	37	37	33	17	13	49	43	49	40	37
Saphire	RLNG	203	36	36	35	32	16	14	50	42	47	38	35
Saif	RLNG	204	38	38	38	34	18	15	51	44	48	39	36
Orient	RLNG	213	35	34	35	29	12	12	43	39	45	36	33
Davis	RLNG	10	66	63	65	59	44	42	88	86	84	74	67
Rousch	RLNG	395	44	42	44	40	24	22	61	53	54	54	45
Nandipur	RLNG	411	39	39	39	35	19	16	38	33	42	34	32
FKPCL	Gas	151	57	56	57	49	32	30	65	62	65	49	34

Source: NEPRA, Bloomberg, IGI Research

May 6, 2021

BRP 009

Exhibit: Fuel cost of IPPs

	Fuel Type	Capacity (MW)	Fuel Cost (PKR/Kwh)								
			16-Apr-21	1-Apr-21	Mar-21	Dec-20	Sep-20	Jun-20	Mar-20	Dec-19	Jul-19
Hub Plant	RFO	1,200	17.63	17.63	17.63	17.30	17.30	17.14	17.14	17.41	17.44
Narawal	RFO	214	11.96	11.96	11.96	12.47	12.53	13.08	13.07	13.74	14.95
Nishat Power	RFO	195	11.79	11.79	11.79	12.61	12.52	14.86	13.91	13.74	14.34
Nishat Chunian	RFO	196	11.59	11.59	11.59	12.62	12.48	12.61	12.05	13.62	13.63
Lalpir	RFO	350	13.48	14.56	14.87	12.40	10.91	12.83	12.80	16.12	16.97
Pakgen	RFO	349	13.95	17.77	13.48	13.53	15.06	14.33	14.33	16.40	16.31
Attock Gen	RFO	156	14.25	14.55	14.26	11.03	10.11	8.64	8.79	8.58	14.46
Kohinoor Energy	RFO	124	12.32	12.80	12.56	12.56	13.85	12.60	11.93	12.10	14.18
Saba Power	RFO	126	15.08	15.08	15.08	14.05	13.24	14.68	14.08	16.36	16.06
Atlas Power	RFO	214	11.76	11.76	11.76	12.18	11.85	12.30	12.33	13.50	14.05
Gulf Powergen	RFO	62	-	-	-	-	9.85	9.85	9.85	9.85	9.85
Liberty	RFO	196	11.38	11.38	11.38	12.57	12.65	10.52	11.30	13.12	12.84
CPHGC	Coal	1,220	5.09	5.30	5.30	4.64	5.73	5.93	5.07	5.54	-
Engro Power Thar	Coal	660	2.59	2.60	2.60	2.69	2.71	2.14	2.07	2.08	3.68
Port Qasim	Coal	1,320	5.80	4.91	4.91	4.43	4.34	6.11	5.42	5.09	5.46
Sahiwal Coal	Coal	1,320	9.03	8.82	8.82	6.87	6.31	7.69	8.20	6.88	7.17
QATPL	RLNG	1,180	8.79	8.64	8.86	7.96	6.06	5.70	10.08	9.38	10.03
Haveli Bahdur Shah	RLNG	1,230	8.70	8.56	8.78	7.88	6.01	5.65	9.94	9.25	9.89
Baloki	RLNG	1,320	8.77	8.63	8.85	7.94	6.05	5.69	10.07	9.37	10.02
Halmore	RLNG	199	10.72	10.54	10.81	9.71	7.40	6.97	12.32	11.46	12.07
Saphire	RLNG	203	10.72	10.54	10.81	9.71	7.40	6.98	12.35	11.46	12.07
Saif	RLNG	204	10.72	10.55	10.82	9.71	7.40	6.99	12.35	11.49	12.07
Orient	RLNG	213	10.72	10.55	10.82	9.71	7.40	6.98	12.35	11.49	12.07
Davis	RLNG	10	14.02	13.79	14.14	12.70	10.08	9.55	16.91	15.78	17.10
Rousch	RLNG	395	11.80	11.61	11.91	10.69	8.15	7.69	13.60	12.65	13.69
Nandipur	RLNG	411	10.87	10.69	10.96	9.84	7.50	7.08	11.30	10.52	11.38
FKPCL	Gas	151	12.27	12.07	12.38	11.09	8.47	7.99	13.14	13.14	13.06

Source: NEPRA, Bloomberg, IGI Research

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May 6, 2021

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IGI Finex Securities Limited

Research Analyst(s)

Research Identity Number: BRP009

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Contact Details

May 6, 2021

Research Team

Saad Khan	Head of Research	Tel: (+92-21) 111-234-234 Ext: 810	saad.khan@igi.com.pk
Abdullah Farhan	Senior Analyst	Tel: (+92-21) 111-234-234 Ext: 912	abdullah.farhan@igi.com.pk
Shumail Rauf	Research Analyst	Tel: (+92-21) 111-234-234 Ext: 957	shumail.rauf@igi.com.pk
Areesha Ishrat	Trainee Analyst	Tel: (+92-21) 111-234-234 Ext: 810	areesha.ishrat@igi.com.pk
Bharat Kishore	Database Officer	Tel: (+92-21) 111-234-234 Ext: 974	bharat.kishore@igi.com.pk

Equity Sales

Faisal Jawed Khan	Head of Equities	Tel: (+92-21) 35301779	faisal.jawed@igi.com.pk
Zaeem Haider Khan	Regional Head (North)	Tel: (+92-42) 38303559-68	zaeem.haider@igi.com.pk
Muhammad Naveed	Regional Manager (Islamabad & Upper North)	Tel: (+92-51) 2604861-62	muhammad.naveed@igi.com.pk
Syeda Mahrukh Hameed	Branch Manager (Lahore)	Tel: (+92-42) 38303564	mahrukh.hameed@igi.com.pk
Irfan Ali	Regional Manager (Faisalabad)	Tel: (+92-41) 2540843-45	irfan.ali@igi.com.pk
Zaid Farook	Branch Manager (Stock Exchange) Karachi	Tel: (+92-21) 32462651-52	zaid.farook@igi.com.pk
Asif Saleem	Branch Manager (RY Khan)	Tel: (+92-68) 5871652-56	asif.saleem@igi.com.pk
Mehtab Ali	Branch Manager (Multan)	Tel: (+92-61) 4512003	mahtab.ali@igi.com.pk

IGI Finex Securities Limited

Trading Rights Entitlement Certificate (TREC) Holder of
Pakistan Stock Exchange Limited |
Corporate member of Pakistan Mercantile Exchange Limited

Head Office

Suite No 701-713, 7th Floor, The Forum, G-20,
Khayaban-e-Jami Block-09, Clifton, Karachi-75600
UAN: (+92-21) 111-444-001 | (+92-21) 111-234-234
Fax: (+92-21) 35309169, 35301780
Website: www.igisecurities.com.pk

Stock Exchange Office

Room # 134, 3rd Floor, Stock Exchange Building,
Stock Exchange Road, Karachi.
Tel: (+92-21) 32429613-4, 32462651-2
Fax: (+92-21) 32429607

Lahore Office

Shop # G-009, Ground Floor,
Packages Mall
Tel: (+92-42) 38303560-69
Fax: (+92-42) 38303559

Faisalabad Office

Room #: 515-516, 5th Floor, State Life
Building, 2- Liaquat Road
Tel: (+92-41) 2540843-45
Fax: (+92-41) 2540815

Multan Office

Mezzanine Floor, Abdali Tower,
Abdali Road
Tel: (92-61) 4512003, 4571183

Islamabad Office

Mezzanine Floor, Office 5, 6 & 7, Kashmir Plaza,
Block- B, Jinnah Avenue, Blue Area
Tel: (+92-51) 2604861-2, 2604864, 2273439
Fax: (+92-51) 2273861

Rahim Yar Khan Office

Plot # 12, Basement of Khalid Market,
Model Town, Town Hall Road
Tel: (+92-68) 5871652-3
Fax: (+92-68) 5871651