

Monthly Report on Short-term Transactions of Electricity in India

August, 2018



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Abbreviations

Abbreviation	Expanded Version
ACBIL	ACB (India) Limited
ACP	Area Clearing Price
ACV	Area Clearing Volume
Adani HVDC	Adani Power Limited (High Voltage Direct Line Current Line)
AD HYDRO	AD Hydro Power Limited
BALCO	Bharat Aluminum Company Limited
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGPL	Coastal Gujarat Power Limited
CHUZACHEN HEP	Chuzachen Hydro Electric Power Project
COASTGEN	Coastal Energen Private Limited
DAGACHU	Dagachhu Hydro Power Corporation
DB POWER	Diligent Power Pvt. Ltd.
DCPP	Donga Mahua Captive Power Plant
DGEN MEGA POWER	DGEN Mega Power Project
DHARIWAL POWER	Dhariwal Power Station
DOYANG HEP	Doyang Hydro Electric Project
DSM	Deviation Settlement Mechanism
DVC	Damodar Valley Corporation
EMCO	EMCO Energy Limited
ESSAR POWER	Essar Power Limited
ESSAR STEEL	Essar Steel Ltd
GMR CHHATTISGARH	GMR Chhattisgarh Energy Limited
GMR KAMALANGA	GMR Kamalanga Energy Ltd.
IEX	Indian Energy Exchange Limited
ILF&S	Infrastructure Leasing & Financial Services Limited
J&K	Jammu & Kashmir
JAYPEE NIGRIE	Jaypee Nigrie Super Thermal Power Project
JINDAL POWER	Jindal Power Limited
JINDAL STAGE-II	Jindal Power Ltd Stage II
JITPL	Jindal India Thermal Power Ltd.
JORETHANG	Jorethang Loop Hydroelectric Power Project
KARCHAM WANGTOO	Jaypee Karcham Hydro Corporation Limited
KORBA WEST POWER	Korba West Power Company Limited
KSK MAHANADI	KSK Mahanadi Power Ltd
LANCO BUDHIL	Lanco Budhil Hydro Power Private Limited
LANKOAMK	Lanco Amarkantak Power Private Limited
LANKOKONDAPALLY	Lanco Kondapally Power Private Limited
LOKTAK	Loktak Power Project
MALANA	Malana Hydroelectric Plant
Maruti Coal	Maruti Clean Coal and Power Limited
MB POWER	MB Power Ltd
MEENAKSHI	Meenakshi Energy Private Limited
MP	Madhya Pradesh
MUs	Million Units

NEEPCO	North Eastern Electric Power Corporation Limited
NHPC STATIONS	National Hydro Electric Power Corporation Ltd. Stations
NLC	Neyveli Lignite Corporation Limited
NTPC STATIONS	National Thermal Power Corporation Ltd. Stations
NJPC	Nathpa Jhakri Hydroelectric Power Station
NLDC	National Load Despatch Centre
NSPCL	NTPC - SAIL Power Company Private Limited
NVVN	NTPC Vidyut Vyapar Nigam Limited
NTECL Vallur	NTPC Tamilnadu Energy Company Limited Vallur
ONGC Platana	ONGC Tripura Power Company
OTC	Over The Counter
PX	Power Exchange
PXIL	Power Exchange India Limited
RANGIT HEP	Rangit Hydro electric power project
REC	Renewable Energy Certificate
RGPPL	Ratnagiri Gas and Power Private Limited
RLDC	Regional Load Despatch Centre
RTC	Round The Clock
Sasan UMPP	Sasan Ultra Mega Power Project
SEMBCORP	Sembcorp Gayatri Power Ltd
SHREE CEMENT	Shree Cement Limited
SIMHAPURI	Simhapuri Energy Private Limited
SKS Power	SKS Power Generation Chhatisgarh Limited
SPECTRUM	Spectrum Power Generation Ltd
TEESTA STG3	Teesta Stage 3 Hydro Power Project

Introduction

A well-functioning electricity market requires an effective market monitoring process. As part of the market monitoring process, the monthly report on short-term transactions of electricity, is being prepared and posted on the website of CERC since August 2008. Here, “short-term transactions of electricity” refers to the contracts of less than one year period, for electricity transacted (inter-State & intra-State) through inter-State Trading Licensees and directly by the Distribution Licensees, Power Exchanges (Indian Energy Exchange Ltd (IEX) and Power Exchange India Ltd (PXIL), and Deviation Settlement Mechanism (DSM). The objectives of the report are: (i) to observe the trends in volume and price of the short-term transactions of electricity; (ii) to analyse competition among the market players; (iii) to analyse effect of congestion on volume of electricity transacted through power exchanges; (iv) to analyse bilateral contracts executed by traders; (v) to provide information on volume and price of Renewable Energy Certificates (RECs) transacted through power exchanges; and (vi) to disclose/disseminate all relevant market information. The details of the report for the month of **August, 2018** are as under:

I: Volume of Short-term Transactions of Electricity

During August 2018, total electricity generation excluding generation from renewable and captive power plants in India was 105669.84 MUs (Table-1).

Of the total electricity generation, 14077.20 MUs (13.32%) was transacted through short-term, comprising of 8182.87 MUs (7.74%) through bilateral (through traders and term-ahead contracts on power exchanges and directly between distribution companies), followed by 3979.63 MUs (3.77%) through day ahead collective transactions on power exchanges and 1914.70 MUs (1.81%) through DSM (Table-1 & Figure-2).

Of the total short-term transactions, bilateral constitutes 58.13% (48.00% through traders and term-ahead contracts on power exchanges and 10.13% directly between distribution companies) followed by 28.27% through day ahead collective transactions on power exchanges and 13.60% through DSM (Table-1 & Figure-1). Daily volume of short-term transactions is shown in Table-17 & Figure-3.

The percentage share of electricity traded by each trading licensee in the total volume of electricity traded by all the trading licensees is provided in Table-2 & Figure-4. The volume of electricity transacted by the trading licensees includes bilateral transactions and the transactions undertaken through power exchanges. There were 38 trading licensees as on August, 2018. In August, 2018, 23 trading licensees were engaged in short term trading. Top 5 trading licensees had a share of 80.65% in the total volume traded by all the licensees. These are PTC India Ltd., Manikaran Power Ltd., Arunachal Pradesh Power Corporation (P) Ltd., Mittal Processors (P) Ltd. and NTPC Vidyut Vyapar Nigam Ltd.

Herfindahl-Hirschman Index (HHI) has been used for measuring the competition among the trading licensees. Increase in the HHI generally indicates decrease in competition and increase of market concentration, and vice versa. The HHI below 0.15 indicates non-concentration, HHI between 0.15 and 0.25 indicates moderate concentration and HHI above 0.25 indicates high concentration. The HHI has been computed based on the volume of electricity traded (inter-State & intra-State) by inter-State trading licensees, and it was 0.2318 for the month of August, 2018, which indicates moderate concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL in the day ahead market was 3974.69 MUs and 4.94 MUs respectively. The volume of total buy bids and sell bids was 4899.16 MUs and 7336.80 MUs respectively in IEX while the same was 12.72 MUs and 51.17 MUs respectively in PXIL. The variation in the volume of buy bids and sell bids placed through power exchanges shows variation in the demand and supply position.

The volume of electricity transacted through IEX and PXIL in the term-ahead market was 86.61 MUs and 13.88 MUs respectively (Table-6 & Table-7).

II: Price of Short-term Transactions of Electricity

(i) *Price of electricity transacted through Traders:* The minimum, maximum and weighted average sale prices have been computed for the electricity transacted through traders and the sale prices were ₹3.01/kWh, ₹6.50/kWh and ₹4.24/kWh respectively (Table-3). The weighted average sale prices were also computed for the transactions during

Round the Clock (RTC), Peak and Off-peak periods separately, and the sale prices were ₹4.20/kWh, ₹4.70/kWh and ₹4.82/kWh respectively (Table-4).

(ii) Price of electricity transacted through Power Exchanges: The minimum, maximum and weighted average prices have been computed for the electricity transacted through IEX and PXIL. The minimum, maximum and weighted average prices were ₹1.75/kWh, ₹9.00/kWh and ₹3.43/kWh respectively in IEX and ₹2.65/kWh, ₹3.87/kWh and ₹3.14/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹3.96/kWh and ₹4.49/kWh respectively (Table-6 and Table-7).

(iii) Price of electricity transacted through DSM: The average deviation settlement price was ₹2.02/kWh. The minimum and maximum deviation settlement prices were ₹0.00/kWh and ₹8.24/kWh respectively (Table-8).

The prices of electricity transacted through trading licensees, power exchanges and DSM and their comparison is shown in Table-18, Figure-5 & 6.

III: Volume of Short-term Transactions of Electricity (Regional Entity¹-Wise)

Of the total bilateral transactions, top 5 regional entities sold 50.67% of the volume, and these were Himachal Pradesh, Andhra Pradesh, Madhya Pradesh, Jammu & Kashmir and Sembcorp Gayatri Power Ltd. Top 5 regional entities purchased 69.51% of the volume, and these were Punjab, Haryana, Uttar Pradesh, Delhi and Telangana (Table-9& 10).

Of the total power exchange transactions, top 5 regional entities sold 35.78% of the volume, and these were Teesta Stage 3 Hydro Power Project, Telangana, Delhi, Karnataka and Rajasthan. Top 5 regional entities purchased 55.83% of the volume, and these were Odisha, Bihar, West Bengal, Maharashtra and Telangana (Table-11 & 12).

Of the total DSM transactions, top 5 regional entities underdrew 26.77% of the volume, and these were Maharashtra, Gujarat, Tamil Nadu, Jammu & Kashmir and NTPC Stations

¹ In case of a state, the entities which are “selling” also include generators connected to state grid and the entities which are “buying” also include open access consumers.

(Western region) (Table-13). Top 5 regional entities overdrew 27.48% of the volume, and these were Damodar Valley Corporation, West Bengal, Rajasthan, Odisha and Uttar Pradesh (Table-14).

Regional entity-wise total volume of net short-term transactions of electricity i.e. volume of net transactions through bilateral, power exchanges and DSM is shown in Table-15 & 19. Top 5 electricity selling regional entities were Himachal Pradesh, Madhya Pradesh, Sembcorp Gayatri Power Ltd., Andhra Pradesh and Jammu & Kashmir. Top 5 electricity purchasing regional entities were Punjab, Haryana, Uttar Pradesh, Odisha and Bihar.

IV: Congestion² on Inter-State Transmission Corridor for Day-Ahead Market on Power Exchanges

Power Exchanges use a price discovery mechanism in which the aggregate demand and supply are matched to arrive at an unconstrained market price and volume. This step assumes that there is no congestion in the inter-State transmission system between different regions. However, in reality, the system operator (NLDC) in coordination with RLDCs limits the flow (due to congestion) in the inter-State transmission system. In such a situation, power exchanges adopt a mechanism called “Market Splitting”³.

In the month of August 2018, congestion occurred only in IEX. The details of congestion are shown in Table-16. The volume of electricity that could not be cleared due to congestion and could not be transacted through power exchanges is the difference between unconstrained cleared volume (volume of electricity that would have been scheduled, had there been no congestion) and actual cleared volume.

² “Congestion” means a situation where the demand for transmission capacity exceeds the available transfer capability

³ “Market Splitting” is a mechanism adopted by Power Exchange where the market is split in the event of transmission congestion, into predetermined (by NLDC) bid areas or zones, which are cleared individually at their respective area prices such that the energy balance in every bid area is reached based upon the demand and supply in individual bid areas and using the available transmission corridor capacity between various bid areas simultaneously”

As a result of this market splitting the price of electricity in the importing region, where demand for electricity is more than supply, becomes relatively higher than the price of electricity in the exporting region.

During the month, the volume of electricity that could not be cleared in IEX due to congestion was 0.17% of the unconstrained cleared volume. In terms of time, congestion occurred was 1.41% in IEX (Table-16). No congestion occurred in PXIL.

V: Bilateral Contracts executed by Traders

The above sections covered an analysis on short-term transactions of electricity in August, 2018. This section covers an analysis of bilateral contracts executed in September, 2018.

(i) Duration of bilateral contracts: During September 2018, a total of 60 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 791.89 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 55% of the bilateral contracts were executed for duration of up to one week, 45% of the contracts were executed for duration of more than a week and up to one month, while no contracts were executed for duration of more than one month.

During the month, 61 banking/swapping bilateral contracts were also executed for the volume of 1691.39 MUs.

(ii) Forward Curve based on price of bilateral contracts: A forward curve reflects present day's expectation of prices for a future period. The forward curve of electricity prices are based on sale prices of bilateral contracts executed by traders. The price of each contract for each day is taken into consideration while constructing the forward curve. On the basis of these prices, the weighted average price for each day is calculated using various sale prices of contracts for delivery on that particular day.

Figure-8 represents the forward curve of electricity sale prices for the period from 1st September, 2018 to 30th December, 2018 based on the bilateral contracts⁴ executed till September, 2018. Forward curves have been drawn for the contracts executed in August, 2018 and September, 2018 for the purpose of comparison. It is observed that forward contract prices are significantly higher for the contracts executed in September, 2018 compared to the

⁴Excluding Banking/Swapping contracts

contracts executed in August, 2018 during the period from 1st October 2018 to 30th November 2018.

VI: Volume and Price of Renewable Energy Certificates (RECs)

The concept of Renewable Energy Certificates (RECs) seeks to address mismatch between availability of renewable energy and the requirement of the obligated entities to meet their renewable purchase obligation by purchasing green attributes of renewable energy remotely located in the form of RECs. The REC mechanism is a market based instrument, to promote renewable sources of energy and development of electricity market.

One REC is equivalent to 1 MWh electricity injected into the grid from renewable energy sources. The REC is exchanged only in the power exchanges approved by CERC within the band of a floor price and forbearance (ceiling) price as notified by CERC from time to time. The first REC trading was held on power exchanges in April, 2011.

The details of REC transactions for the month of August, 2018 are shown in Table-20. The market clearing volume of solar RECs transacted on IEX and PXIL were 216223 and 269906 respectively and the market clearing price of these RECs was ₹1000/MWh on both the power exchanges. Market clearing volume of non-solar RECs transacted on IEX and PXIL were 291588 and 41891 respectively and the weighted average market clearing price of these RECs was ₹1200/MWh in IEX and ₹1101/MWh in PXIL.

The gap between the volume of buy and sell bids of RECs placed through power exchanges shows about the variation in demand for both solar and non-solar RECs. For Solar RECs, the ratio of buy bids to sell bids was 0.15 and 0.29 for IEX and PXIL respectively. For non-solar RECs, the ratio of buy bids to sell bids was 1.56 and 5.04 for IEX and PXIL respectively.

VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 13.32%.
- Of the total short-term transactions, bilateral constitutes 58.13% (48.00% through traders and term-ahead contracts on power exchanges and 10.13% directly between distribution companies) followed by 28.27% through day ahead collective transactions on power exchanges and 13.60% through DSM (Table-1 & Figure-1).
- Top 5 trading licensees had a share of 80.65% in the total volume traded by all the trading licensees.
- The Herfindahl Hirschman Index computed for the volume of electricity traded by trading licensees was 0.2318, indicating moderate concentration of market power.
- The weighted average price of electricity transacted through trading licensees was ₹4.24/kWh. The weighted average price of electricity transacted through IEX and PXIL was ₹3.43/kWh and ₹3.14/kWh respectively.
- The average price of electricity transacted through DSM was ₹2.02/kWh.
- Top 5 electricity selling regional entities were Himachal Pradesh, Madhya Pradesh, Sembcorp Gayatri Power Ltd., Andhra Pradesh and Jammu & Kashmir. Top 5 electricity purchasing regional entities were Punjab, Haryana, Uttar Pradesh, Odisha and Bihar.
- During the month, the volume of electricity that could not be cleared in IEX due to congestion was 0.17% of the unconstrained cleared volume. In terms of time, congestion occurred was 1.41% in IEX. No congestion occurred in PXIL.
- In September 2018, 55% of the bilateral contracts were executed for duration of up to one week, 45% of the contracts were executed for duration of more than a week and up to one month, while no contracts were executed for duration of more than one month.

- The forward curve of electricity sale prices for the period from 1st September, 2018 to 30th December, 2018 based on the bilateral contracts⁵ executed till September, 2018 shows that forward contract prices are significantly higher for the contracts executed in September, 2018 compared to the contracts executed in August, 2018 during the period from 1st October 2018 to 30th November 2018.
- The market clearing volume of solar RECs transacted on IEX and PXIL were 216223 and 269906 respectively and the market clearing price of these RECs was ₹1000/MWh on both the power exchanges. Market clearing volume of non-solar RECs transacted on IEX and PXIL were 291588 and 41891 respectively and the weighted average market clearing price of these RECs was ₹1200/MWh in IEX and ₹1101/MWh in PXIL.

⁵*Excluding Banking/Swapping contracts*

Table-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA), AUGUST 2018				
Sr.No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	8182.87	58.13	7.74
	(i) Through Traders and PXs	6757.19	48.00	6.39
	(ii) Direct	1425.68	10.13	1.35
2	Through Power Exchanges	3979.63	28.27	3.77
	(i) IEX	3974.69	28.23	3.76
	(ii) PXIL	4.94	0.04	0.005
3	Through DSM	1914.70	13.60	1.81
	Total	14077.20	-	13.32
	Total Generation	105669.84	-	-

Source: NLDC

Figure-1: Volume of Short-term Transactions of Electricity, August 2018

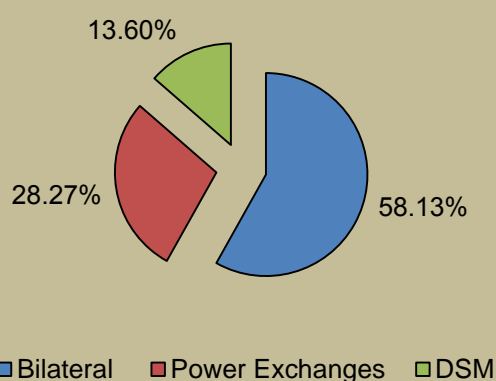
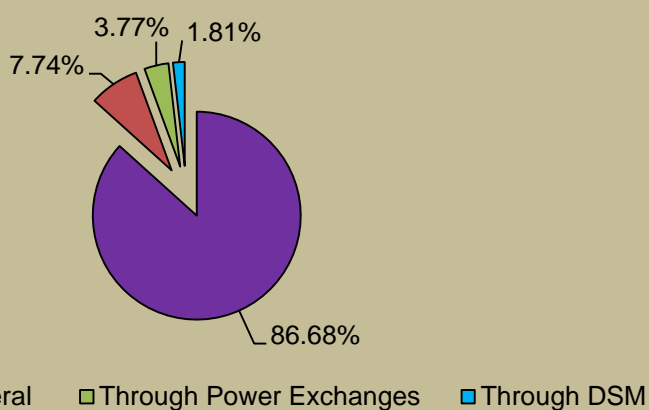


Figure-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, August 2018



**Figure-3: Volume of Short-term Transactions of Electricity,
August 2018 (Day-wise)**

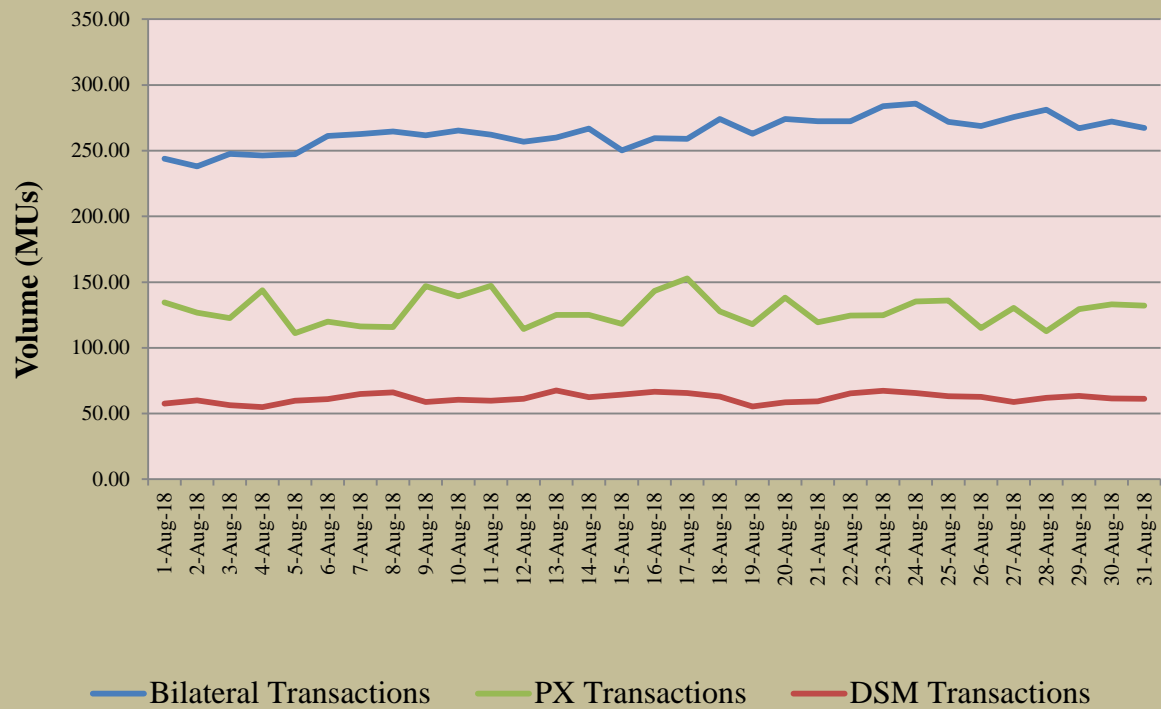


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, AUGUST 2018			
Sr.No	Name of the Trading Licensee	% Share in total Volume transacted by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd.	43.51	0.1893
2	Manikaran Power Ltd.	11.40	0.0130
3	Arunachal Pradesh Power Corporation (P) ltd	11.10	0.0123
4	Mittal Processors (P) Ltd.	8.07	0.0065
5	NTPC Vidyut Vyapar Nigam Ltd.	6.56	0.0043
6	GMR Energy Trading Ltd.	5.31	0.0028
7	Tata Power Trading Company (P) Ltd.	4.74	0.0022
8	Adani Enterprises Ltd.	2.78	0.0008
9	Jaiprakash Associates Ltd.	1.28	0.0002
10	Statkraft Markets Pvt. Ltd.	1.20	0.0001
11	Knowledge Infrastructure Systems (P) Ltd	0.99	0.0001
12	Essar Electric Power Development Corp. Ltd.	0.67	0.0000
13	JSW Power Trading Company Ltd	0.61	0.0000
14	RPG Power Trading Company Ltd.	0.49	0.0000
15	IPCL Power Trading Pvt. Ltd.	0.32	0.0000
16	Instinct Infra & Power Ltd.	0.32	0.0000
17	National Energy Trading & Services Ltd.	0.18	0.0000
18	Customized Energy Solutions India (P) Ltd.	0.17	0.0000
19	Shree Cement Ltd.	0.14	0.0000
20	My Home Power Private Ltd.	0.08	0.0000
21	Parshavanath Power Projects Private Limited	0.03	0.0000
22	Gita Power & Infrastructure Private Limited	0.03	0.0000
23	Phillip Commodities India (P) Ltd.	0.008	0.0000
TOTAL		100.00%	0.2318
Top 5 trading licensees		80.65%	
<i>Note 1: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state & intra-state) and the transactions undertaken through power exchanges.</i>			
<i>Note 2: Volume of electricity transacted by Global Energy Ltd is not included.</i>			
<i>Source: Information submitted by trading licensees</i>			

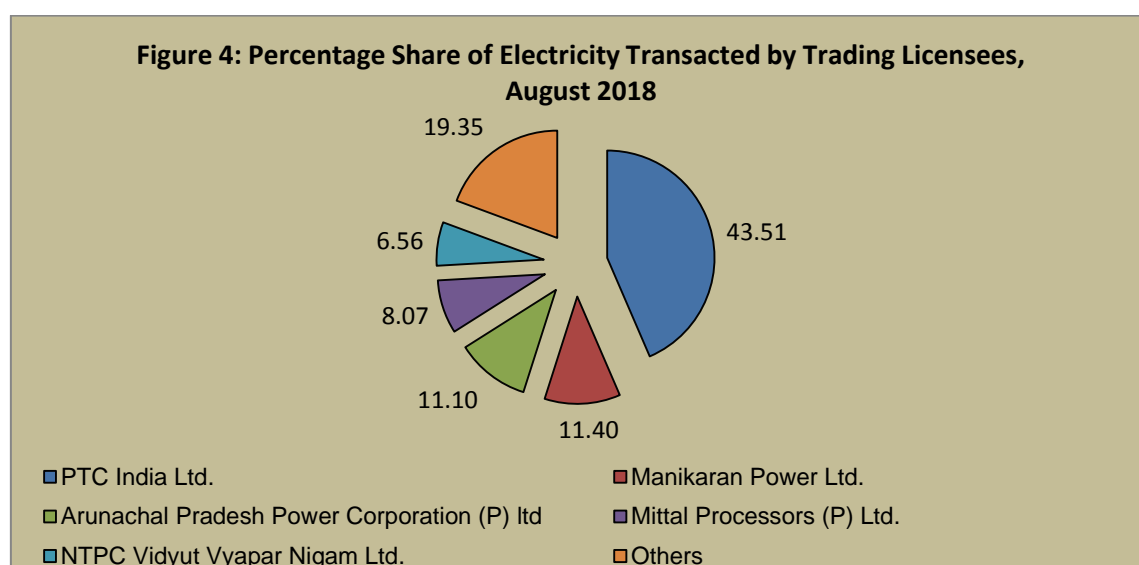


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, AUGUST 2018		
Sr.No	Item	Sale Price of Traders (₹/kWh)
1	Minimum	3.01
2	Maximum	6.50
3	Weighted Average	4.24

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), AUGUST 2018		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.20
2	PEAK	4.70
3	OFF PEAK	4.82

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, AUGUST 2018			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	1.75	2.65
2	Maximum	9.00	3.87
3	Weighted Average	3.43	3.14

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, AUGUST 2018			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	72.79	4.10
2	Day Ahead Contingency Contracts	13.82	3.24
	Total	86.61	3.96

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, AUGUST 2018			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	13.88	4.49

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH DSM, AUGUST 2018		
Sr.No	Item	Price in All India Grid (₹/kWh)
1	Minimum	0.00
2	Maximum	8.24
3	Average	2.02

Source: NLDC

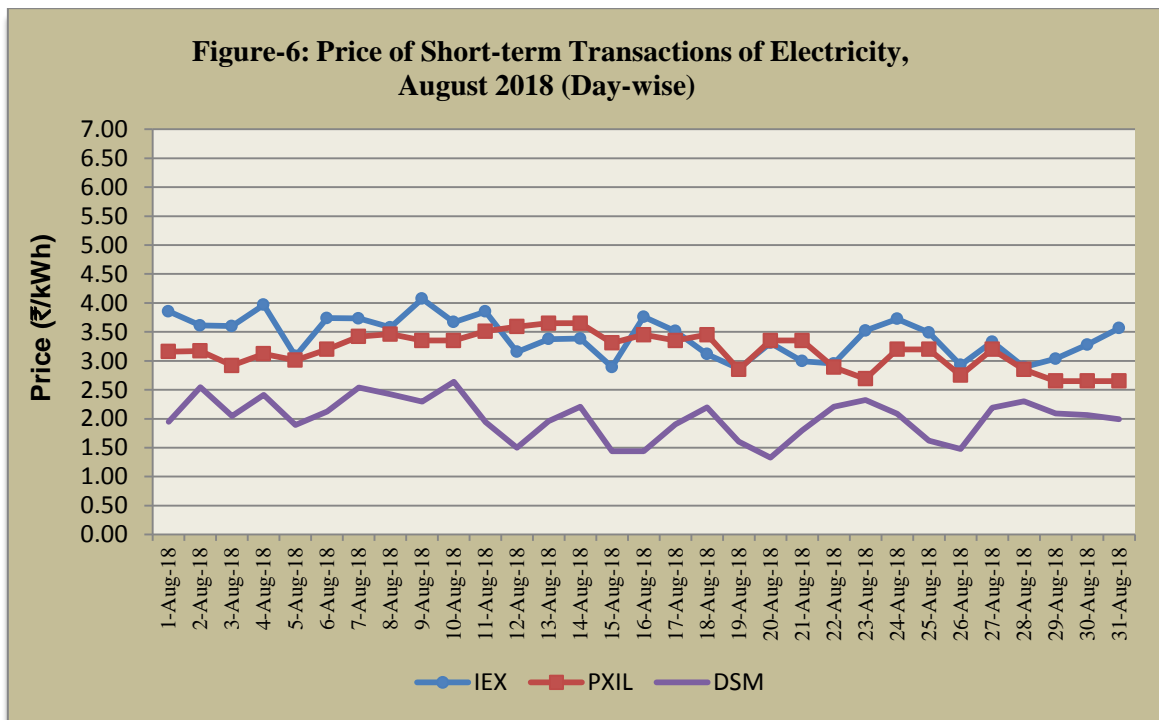
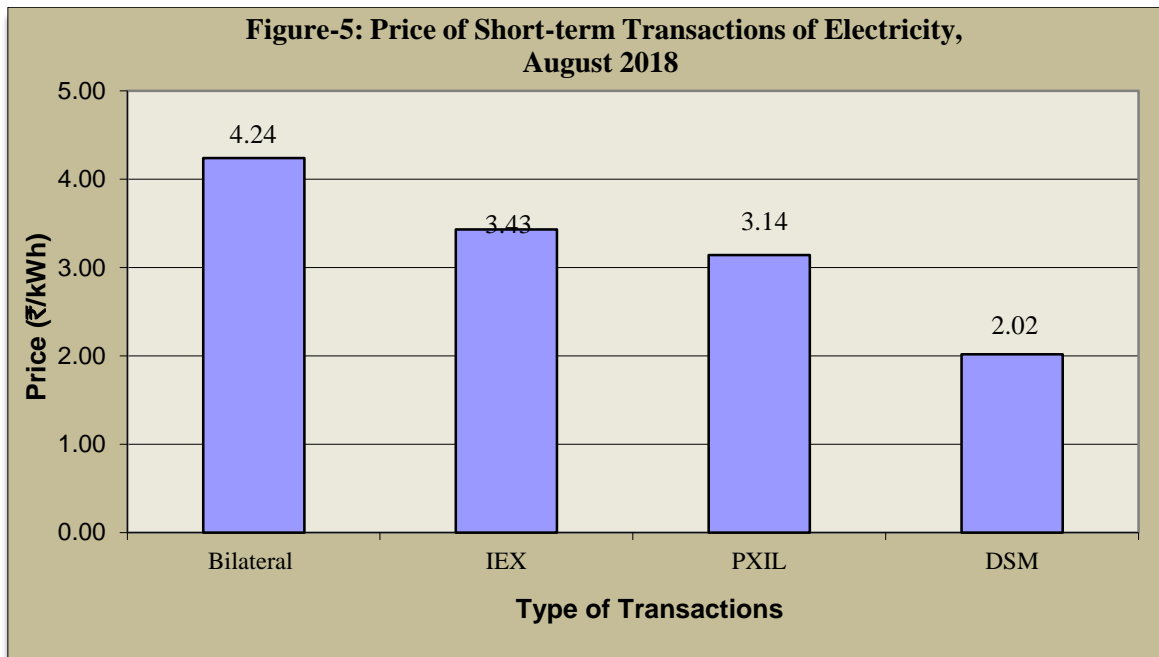


Table-9: VOLUME OF ELECTRICITY SOLD THROUGH BILATERAL, AUGUST 2018		
Name of the Entity	Volume of Sale (MUs)	% of Volume
HIMACHAL PRADESH	1136.59	14.00
ANDHRA PRADESH	818.20	10.08
MP	807.74	9.95
J & K	760.61	9.37
SENBCORP	590.93	7.28
GUJARAT	414.86	5.11
TAMIL NADU	380.82	4.69
GMR CHATTISGARH	290.07	3.57
DVC	236.60	2.91
UTTARAKHAND	230.32	2.84
WEST BENGAL	196.39	2.42
JAYPEE NIGRIE	181.54	2.24
ESSAR POWER	166.90	2.06
MAHARASHTRA	139.56	1.72
DB POWER	129.13	1.59
KARCHAM WANGTOO	118.83	1.46
THERMAL POWERTECH	116.81	1.44
MB POWER	110.13	1.36
SHREE CEMENT	107.02	1.32
ADHUNIK POWER LTD	94.80	1.17
DAGACHU	90.92	1.12
RAJASTHAN	81.52	1.00
SKS POWER	81.30	1.00
JITPL	79.02	0.97
KERALA	74.57	0.92
MEGHALAYA	69.90	0.86
TASHIDENG HEP	57.54	0.71
JORETHANG	57.06	0.70
CHUZACHEN HEP	56.10	0.69
JINDAL STAGE-II	50.58	0.62
TELANGANA	48.97	0.60
ONGC PALATANA	41.02	0.51
KARNATAKA	37.88	0.47
DIKCHU HEP	35.48	0.44
AD HYDRO	28.61	0.35
ODISHA	26.37	0.32
TEESTA STG3	24.29	0.30
SIKKIM	23.82	0.29
MANIPUR	18.91	0.23
SAINJ HEP	18.60	0.23
JINDAL POWER	12.31	0.15
GOA	10.78	0.13
MIZORAM	10.69	0.13
NAGALAND	10.57	0.13
TRN ENERGY	9.11	0.11
LANKO_AMK	8.93	0.11
DELHI	7.98	0.10
HARYANA	5.31	0.07
MALANA	3.21	0.04
JHABUA POWER_MP	2.98	0.04
TOTAL	8118.72	100.00
Volume Sold by top 5 Regional Entities	4114.07	50.67

Table-10: VOLUME OF ELECTRICITY PURCHASED THROUGH BILATERAL, AUGUST 2018		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
PUNJAB	1597.47	19.52
HARYANA	1493.13	18.25
UTTAR PRADESH	1468.83	17.95
DELHI	654.34	8.00
TELANGANA	474.18	5.79
WEST BENGAL	318.76	3.90
GUJARAT	276.88	3.38
UTTARAKHAND	253.42	3.10
MAHARASHTRA	209.39	2.56
BIHAR	205.89	2.52
BANGLADESH	183.77	2.25
CHHATTISGARH	179.04	2.19
ESSAR STEEL	174.27	2.13
ANDHRA PRADESH	161.01	1.97
RAJASTHAN	99.75	1.22
ODISHA	98.98	1.21
JHARKHAND	94.80	1.16
ASSAM	93.60	1.14
NEPAL(NVVN)	61.10	0.75
DADRA & NAGAR HAVELI	38.91	0.48
TAMIL NADU	21.48	0.26
MP	7.95	0.10
GOA	4.72	0.06
TRIPURA	3.01	0.04
KARNATAKA	2.80	0.03
DVC	2.72	0.03
HIMACHAL PRADESH	2.69	0.03
TOTAL	8182.87	100.00
Volume Purchased by top 5 Regional Entities	5687.96	69.51

**Table-11: VOLUME OF ELECTRICITY SOLD THROUGH POWER EXCHANGES,
AUGUST 2018**

Name of the Entity	Volume of Sale (MUs)	% of Volume
TEESTA STG3	361.65	9.09
TELANGANA	332.81	8.36
DELHI	287.14	7.22
KARNATAKA	239.08	6.01
RAJASTHAN	203.04	5.10
NLC	197.28	4.96
KERALA	194.37	4.88
MP	177.59	4.46
HIMACHAL PRADESH	158.11	3.97
UTTAR PRADESH	137.98	3.47
HARYANA	130.89	3.29
MB POWER	117.72	2.96
SEMBCORP	89.12	2.24
ANDHRA PRADESH	83.40	2.10
AD HYDRO	79.83	2.01
MAHARASHTRA	69.63	1.75
ESSAR POWER	63.98	1.61
SAINJ HEP	59.31	1.49
SPECTRUM	58.10	1.46
DB POWER	47.87	1.20
JAYPEE NIGRIE	45.53	1.14
SIKKIM	44.80	1.13
MEGHALAYA	44.47	1.12
UTTARAKHAND	44.39	1.12
ODISHA	40.69	1.02
PUNJAB	37.98	0.95
SHREE CEMENT	36.69	0.92
DVC	35.95	0.90
ACBIL	35.32	0.89
NTPC STATIONS-SR	32.93	0.83
DIKCHU HEP	29.77	0.75
MARUTI COAL	29.66	0.75
KARCHAM WANGTOO	29.34	0.74
GUJARAT	26.60	0.67
WEST BENGAL	25.89	0.65
TRIPURA	25.03	0.63
CHANDIGARH	23.49	0.59
CHHATTISGARH	21.42	0.54
MIZORAM	19.02	0.48
SKS POWER	18.83	0.47
J & K	18.49	0.46
JHABUA POWER_MP	18.30	0.46
ASSAM	16.08	0.40
JINDAL STAGE-II	15.69	0.39
MANIPUR	14.81	0.37
TAMIL NADU	14.32	0.36
NTPC STATIONS-NER	13.89	0.35
TRN ENERGY	13.16	0.33

NTPC STATIONS-NR	11.29	0.28
GMR CHATTISGARH	11.28	0.28
JINDAL POWER	10.02	0.25
THERMAL POWERTECH	9.33	0.23
TASHIDENG HEP	9.04	0.23
MALANA	8.84	0.22
CHUZACHEN HEP	8.16	0.20
JORETHANG	8.07	0.20
ONGC PALATANA	6.42	0.16
GMR KAMALANGA	5.79	0.15
BALCO	5.12	0.13
LANCO BUDHIL	4.98	0.13
GOA	4.91	0.12
DADRA & NAGAR HAVELI	4.79	0.12
ADHUNIK POWER LTD	2.36	0.06
ILF&S	2.19	0.06
JHARKHAND	1.68	0.04
BIHAR	1.59	0.04
NAGALAND	1.44	0.04
NTPC STATIONS-WR	0.52	0.01
DHARIWAL POWER	0.30	0.01
BRBCL,NABINAGAR	0.10	0.00
TOTAL	3979.63	100.00
Volume sold by top 5 Regional Entities	1423.73	35.78

Table-12: VOLUME OF ELECTRICITY PURCHASED THROUGH POWER EXCHANGES, AUGUST 2018

Name of the Entity	Volume of Purchase (MUs)	% of Volume
ODISHA	649.22	16.31
BIHAR	551.32	13.85
WEST BENGAL	416.10	10.46
MAHARASHTRA	304.19	7.64
TELANGANA	301.12	7.57
GUJARAT	280.16	7.04
J & K	244.31	6.14
ESSAR STEEL	157.47	3.96
KARNATAKA	147.20	3.70
ASSAM	145.92	3.67
ANDHRA PRADESH	142.47	3.58
RAJASTHAN	138.26	3.47
UTTARAKHAND	105.46	2.65
TAMIL NADU	94.62	2.38
HARYANA	54.32	1.37
CHHATTISGARH	44.25	1.11
HIMACHAL PRADESH	32.66	0.82
DAMAN AND DIU	31.18	0.78
GOA	28.93	0.73
KERALA	26.71	0.67
MEGHALAYA	19.95	0.50
DVC	19.91	0.50
DADRA & NAGAR HAVELI	17.61	0.44
MP	10.14	0.25
DELHI	4.85	0.12
PUNJAB	4.80	0.12
UTTAR PRADESH	3.43	0.09
TRIPURA	2.54	0.06
MANIPUR	0.31	0.01
CHANDIGARH	0.21	0.01
TOTAL	3979.63	100.00
Volume purchased by top 5 Regional Entities	2221.95	55.83

Table-13: VOLUME OF ELECTRICITY UNDER DRAWAL (EXPORTED) THROUGH DSM, AUGUST 2018		
Name of the Entity	Volume of Underdrawal (MUs)	% of Volume
MAHARASHTRA	91.43	6.19
GUJARAT	89.81	6.08
TAMIL NADU	78.37	5.31
J & K	68.06	4.61
NTPC STATIONS-WR	67.48	4.57
SASAN UMPP	65.03	4.41
ANDHRA PRADESH	62.56	4.24
KARNATAKA	58.94	3.99
NLC	57.32	3.88
MP	56.87	3.85
NTPC STATIONS-NR	54.34	3.68
UTTAR PRADESH	47.67	3.23
PUNJAB	44.11	2.99
TELANGANA	39.74	2.69
RAJASTHAN	39.44	2.67
UTTARAKHAND	37.43	2.54
NTPC STATIONS-ER	34.34	2.33
BIHAR	33.08	2.24
DELHI	32.89	2.23
KERALA	31.20	2.11
NTPC STATIONS-SR	28.67	1.94
CHHATTISGARH	25.98	1.76
ESSAR STEEL	23.41	1.59
HARYANA	18.26	1.24
GOA	13.95	0.95
JAYPEE NIGRIE	12.97	0.88
JHARKHAND	11.03	0.75
ARUNACHAL PRADESH	10.53	0.71
KARCHAM WANGTOO	9.99	0.68
NEEPCO STATIONS	9.58	0.65
MEGHALAYA	9.24	0.63
TRIPURA	9.14	0.62
ASSAM	8.79	0.60
TEESTA STG3	7.82	0.53
NJPC	7.47	0.51
AD HYDRO	7.42	0.50
MANIPUR	7.14	0.48
MB POWER	6.46	0.44
EMCO	6.19	0.42
SIKKIM	6.05	0.41
MIZORAM	5.74	0.39
LANKO_AMK	5.74	0.39
HIMACHAL PRADESH	5.46	0.37
JINDAL POWER	5.40	0.37
CHUZACHEN HEP	5.37	0.36
TASHIDENG HEP	5.20	0.35
MAITHON POWER LTD	5.03	0.34
TEESTA HEP	5.01	0.34
WEST BENGAL	5.01	0.34
NAGALAND	4.81	0.33
CGPL	4.78	0.32
DVC	4.64	0.31
NETCL VALLUR	4.64	0.31

ODISHA	4.62	0.31
RANGANADI HEP	4.41	0.30
SEBPCORP	4.20	0.28
CHANDIGARH	3.98	0.27
PONDICHERRY	3.88	0.26
JORETHANG	3.71	0.25
DB POWER	3.45	0.23
GMR KAMALANGA	3.20	0.22
NSPCL	3.06	0.21
KSK MAHANADI	2.97	0.20
THERMAL POWERTECH	2.76	0.19
DIKCHU HEP	2.72	0.18
BANGLADESH	2.57	0.17
LANCO BUDHIL	2.36	0.16
JINDAL STAGE-II	2.21	0.15
BALCO	2.20	0.15
TRN ENERGY	2.17	0.15
COASTGEN	2.09	0.14
ACBIL	2.07	0.14
URI-2	2.00	0.14
ESSAR POWER	2.00	0.14
JITPL	1.73	0.12
GMR CHATTISGARH	1.71	0.12
SHREE CEMENT	1.60	0.11
NEPAL(NVVN)	1.44	0.10
SKS POWER	1.20	0.08
JHABUA POWER_MP	1.19	0.08
BRBCL,NABINAGAR	1.01	0.07
RANGIT HEP	0.95	0.06
RGPL (DABHOL)	0.92	0.06
ILF&S	0.92	0.06
DHARIWAL POWER	0.77	0.05
RKM POWER	0.68	0.05
LOKTAK	0.55	0.04
MALANA	0.53	0.04
ADHUNIK POWER LTD	0.47	0.03
DADRA & NAGAR HAVELI	0.34	0.02
DOYANG HEP	0.30	0.02
DAMAN AND DIU	0.11	0.01
DAGACHU	0.03	0.00
TOTAL	1476.07	100.00
Volume Exported by top 5 Regional Entities	395.15	26.77

Table-14: VOLUME OF ELECTRICITY OVER DRAWAL (IMPORTED) THROUGH DSM, AUGUST 2018		
Name of the Entity	Volume of Over drawal (MUs)	% of Volume
DVC	141.21	6.55
WEST BENGAL	127.51	5.91
RAJASTHAN	114.58	5.31
ODISHA	107.39	4.98
UTTAR PRADESH	101.91	4.73
NTPC STATIONS-WR	98.34	4.56
HARYANA	92.54	4.29
NTPC STATIONS-NR	86.08	3.99
NTPC STATIONS-ER	74.48	3.45
HIMACHAL PRADESH	70.69	3.28
KARNATAKA	70.62	3.27
TELANGANA	66.19	3.07
MAHARASHTRA	61.14	2.84
TAMIL NADU	57.58	2.67
BIHAR	53.58	2.48
GUJARAT	49.54	2.30
MP	46.73	2.17
ANDHRA PRADESH	39.33	1.82
CHHATTISGARH	36.94	1.71
NTPC STATIONS-SR	36.57	1.70
CGPL	36.38	1.69
DADRA & NAGAR HAVELI	35.64	1.65
ASSAM	31.20	1.45
DAMAN AND DIU	28.25	1.31
ESSAR STEEL	27.59	1.28
JHARKHAND	26.77	1.24
PUNJAB	25.30	1.17
NEPAL(NVVN)	21.93	1.02
DELHI	20.06	0.93
KERALA	18.73	0.87
J & K	17.33	0.80
GMR KAMALANGA	15.26	0.71
THERMAL POWERTECH	15.10	0.70
CHANDIGARH	13.08	0.61
UTTARAKHAND	12.79	0.59
BALCO	12.67	0.59
ILF&S	12.50	0.58
URI-2	12.11	0.56
JINDAL STAGE-II	11.84	0.55
NETCL VALLUR	11.66	0.54
RGPPL (DABHOL)	11.36	0.53
AD HYDRO	10.42	0.48
GMR CHATTISGARH	10.00	0.46
KARCHAM WANGTOO	9.91	0.46
DAGACHU	9.81	0.45
JHABUA POWER_MP	8.55	0.40
TRIPURA	8.46	0.39
NSPCL	8.21	0.38

SEMBBCORP	8.14	0.38
NLC	8.12	0.38
GOA	7.93	0.37
MB POWER	7.39	0.34
SKS POWER	6.54	0.30
SHREE CEMENT	6.27	0.29
EMCO	6.19	0.29
PONDICHERRY	6.02	0.28
ACBIL	5.49	0.25
ESSAR POWER	5.20	0.24
MAITHON POWER LTD	4.56	0.21
NAGALAND	4.48	0.21
CHUZACHEN HEP	4.34	0.20
ADHUNIK POWER LTD	4.28	0.20
ARUNACHAL PRADESH	4.11	0.19
NJPC	3.68	0.17
JINDAL POWER	3.42	0.16
KSK MAHANADI	3.32	0.15
LANCO BUDHIL	3.26	0.15
TASHIDENG HEP	2.94	0.14
RKM POWER	2.75	0.13
BRBCL,NABINAGAR	2.70	0.13
BANGLADESH	2.68	0.12
JORETHANG	2.00	0.09
JAYPEE NIGRIE	1.99	0.09
COASTGEN	1.94	0.09
TEESTA STG3	1.87	0.09
MEGHALAYA	1.61	0.07
MIZORAM	1.56	0.07
MANIPUR	1.55	0.07
JITPL	1.49	0.07
SIKKIM	1.25	0.06
LANKO_AMK	1.19	0.06
NEEPCO STATIONS	1.19	0.06
DB POWER	1.14	0.05
SASAN UMPP	1.11	0.05
MALANA	1.06	0.05
TRN ENERGY	0.93	0.04
RANGANADI HEP	0.90	0.04
SIMHAPURI	0.87	0.04
LANKO KONDAPALLI	0.85	0.04
KORBA WEST POWER	0.64	0.03
DHARIWAL POWER	0.53	0.02
DOYANG HEP	0.47	0.02
DIKCHU HEP	0.25	0.01
LOKTAK	0.16	0.01
TEESTA HEP	0.16	0.01
RANGIT HEP	0.04	0.00
TOTAL	2156.44	100.00
Volume Imported by top 5 Regional Entities	592.60	27.48

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), AUGUST 2018		
Sr.No.	Name of the Entity	Total volume of net short-term transactions of electricity*
1	PUNJAB	1545.48
2	HARYANA	1485.54
3	UTTAR PRADESH	1387.16
4	ODISHA	783.92
5	BIHAR	776.03
6	WEST BENGAL	635.08
7	TELANGANA	419.97
8	DELHI	351.23
9	ESSAR STEEL	335.92
10	MAHARASHTRA	274.10
11	ASSAM	245.65
12	CHHATTISGARH	212.83
13	BANGLADESH	183.88
14	JHARKHAND	108.86
15	DADRA & NAGAR HAVELI	87.05
16	NEPAL(NVVN)	81.59
17	GUJARAT	75.31
18	UTTARAKHAND	59.53
19	DAMAN AND DIU	59.32
20	NTPC STATIONS-ER	40.14
21	CGPL	31.60
22	NTPC STATIONS-WR	30.34
23	RAJASTHAN	28.59
24	NTPC STATIONS-NR	20.45
25	GOA	11.94
26	RGPL (DABHOL)	10.43
27	URI-2	10.10
28	ILF&S	9.39
29	NETCL VALLUR	7.02
30	NSPCL	5.15
31	BALCO	4.89
32	GMR KAMALANGA	4.42
33	PONDICHERRY	2.14
34	RKM POWER	2.07
35	BRBCL,NABINAGAR	1.59
36	SIMHAPURI	0.87
37	LANKO KONDAPALLI	0.85
38	KORBA WEST POWER	0.64
39	LOKTAK	-0.39
40	MAITHON POWER LTD	-0.47
41	DHARIWAL POWER	-0.54
42	RANGIT HEP	-0.91
43	RANGANADI HEP	-3.52
44	NJPC	-3.79
45	LANCO BUDHIL	-4.09
46	TEESTA HEP	-4.85
47	ARUNACHAL PRADESH	-6.42
48	NEEPCO STATIONS	-8.40
49	MALANA	-11.51
50	NAGALAND	-12.33

51	LANKO_AMK	-13.47
52	NTPC STATIONS-NER	-13.89
53	JHABUA POWER_MP	-13.92
54	CHANDIGARH	-14.19
55	TRIPURA	-20.15
56	TRN ENERGY	-23.52
57	JINDAL POWER	-24.31
58	NTPC STATIONS-SR	-25.15
59	MARUTI COAL	-29.66
60	ACBIL	-32.65
61	MIZORAM	-33.89
62	MANIPUR	-39.00
63	ONGC PALATANA	-47.43
64	JINDAL STAGE-II	-56.63
65	SPECTRUM	-59.82
66	SASAN UMPP	-63.92
67	CHUZACHEN HEP	-65.29
68	JORETHANG	-66.83
69	DIKCHU HEP	-67.72
70	TASHIDENG HEP	-68.84
71	SIKKIM	-73.42
72	SAINJ HEP	-77.91
73	JITPL	-79.26
74	DAGACHU	-81.14
75	ADHUNIK POWER LTD	-93.34
76	SKS POWER	-94.79
77	MEGHALAYA	-102.04
78	AD HYDRO	-105.43
79	DVC	-113.35
80	THERMAL POWERTECH	-113.80
81	KARNATAKA	-115.28
82	SHREE CEMENT	-139.03
83	KARCHAM WANGTOO	-148.24
84	DB POWER	-179.31
85	MB POWER	-226.92
86	ESSAR POWER	-227.67
87	JAYPEE NIGRIE	-238.05
88	NLC	-246.48
89	KERALA	-254.70
90	GMR CHATTISGARH	-293.06
91	TAMIL NADU	-299.83
92	TEESTA STG3	-391.89
93	J & K	-585.52
94	ANDHRA PRADESH	-621.35
95	SEMBICORP	-676.11
96	MP	-977.38
97	HIMACHAL PRADESH	-1194.13
* Total volume of net short-term transactions of electricity includes net of transactions of electricity through bilateral, power exchange and UI		
(-) indicates sale and (+) indicates purchase		

Table-16: DETAILS OF CONGESTION IN POWER EXCHANGES, AUGUST 2018			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume* (MUs)	4026.23	4.94
B	Actual Cleared Volume and hence scheduled (MUs)	4019.36	4.94
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	6.87	0.00
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	0.17%	0.00%
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	1.41%	0.00%
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	30.95%	0.00%
	6.00 - 12.00 hours	23.81%	0.00%
	12.00 - 18.00 hours	0.00%	0.00%
	18.00 - 24.00 hours	45.24%	0.00%
* This power would have been scheduled had there been no congestion.			
Source: IEX & PXIL & NLDC			

Table-17: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (DAY-WISE) (MUs), AUGUST 2018						
Date	Bilateral		Power Exchange (Area Clearing Volume# of Day Ahead Market)		Deviation Settlement (Over Drawl+Under Generation)	Total Electricity Generation (MU) as given at CEA Website*
	Through Traders and PXs**	Direct	IEX	PXIL		
1-Aug-18	198.90	44.99	134.21	0.25	57.55	3354.81
2-Aug-18	194.81	43.25	126.58	0.25	59.90	3417.76
3-Aug-18	201.97	45.68	122.25	0.26	56.47	3482.17
4-Aug-18	200.23	46.11	143.55	0.25	54.99	3503.18
5-Aug-18	203.40	43.96	111.05	0.21	59.84	3386.76
6-Aug-18	217.90	43.25	119.58	0.29	61.07	3403.24
7-Aug-18	217.99	44.70	116.07	0.17	64.82	3449.95
8-Aug-18	221.06	43.52	115.78	0.13	66.13	3509.98
9-Aug-18	217.96	43.68	146.63	0.25	58.79	3542.27
10-Aug-18	221.48	43.94	138.94	0.20	60.57	3598.70
11-Aug-18	217.54	44.55	146.99	0.16	59.76	3453.58
12-Aug-18	212.78	43.93	114.13	0.20	61.31	3238.49
13-Aug-18	215.40	44.68	124.93	0.06	67.49	3361.33
14-Aug-18	221.92	44.86	125.10	0.03	62.47	3504.91
15-Aug-18	207.77	42.55	118.05	0.08	64.38	3279.02
16-Aug-18	215.96	43.57	143.11	0.16	66.52	3318.76
17-Aug-18	215.09	43.96	152.66	0.16	65.63	3372.77
18-Aug-18	225.67	48.45	127.59	0.05	62.87	3404.92
19-Aug-18	215.79	47.18	117.88	0.11	55.40	3268.83
20-Aug-18	223.82	50.23	138.06	0.06	58.53	3327.43
21-Aug-18	223.37	49.10	119.45	0.06	59.22	3378.55
22-Aug-18	223.68	48.65	124.40	0.16	65.31	3423.49
23-Aug-18	235.31	48.64	124.66	0.17	67.26	3375.20
24-Aug-18	237.50	48.37	135.19	0.16	65.57	3389.68
25-Aug-18	223.92	47.94	135.91	0.16	63.20	3379.21
26-Aug-18	220.05	48.72	114.84	0.11	62.68	3199.47
27-Aug-18	225.54	50.10	130.34	0.16	58.91	3409.79
28-Aug-18	233.03	48.04	112.56	0.16	61.89	3487.85
29-Aug-18	220.97	46.16	129.36	0.17	63.48	3493.11
30-Aug-18	223.86	48.20	132.99	0.17	61.43	3485.46
31-Aug-18	222.52	44.74	131.85	0.17	61.28	3469.17
Total	6757.19	1425.68	3974.69	4.94	1914.70	105669.84
Source: NLDC						
* Gross Electricity Generation excluding electricity generation from renewables and captive power plants.						
** The volume of bilateral through PXs represents the volume through term-ahead contracts.						
# Area Clearing Volume represents the scheduled volume of all the bid areas.						

Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), AUGUST 2018									
Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)		
Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid		
							Minimum Price	Maximum Price	Average Price**
1-Aug-18	2.57	9.00	3.86	3.16	3.16	3.16	0.00	3.45	1.95
2-Aug-18	2.33	9.00	3.61	3.17	3.17	3.17	0.00	6.36	2.54
3-Aug-18	2.66	9.00	3.60	2.92	2.92	2.92	0.00	4.91	2.04
4-Aug-18	2.90	9.00	3.97	3.12	3.12	3.12	0.00	6.36	2.41
5-Aug-18	2.25	4.80	3.08	3.01	3.01	3.01	0.00	4.91	1.89
6-Aug-18	2.90	8.00	3.74	3.20	3.20	3.20	0.00	3.45	2.13
7-Aug-18	2.95	8.00	3.73	3.42	3.42	3.42	0.00	6.16	2.54
8-Aug-18	2.40	6.00	3.58	3.46	3.46	3.46	0.00	6.36	2.42
9-Aug-18	2.90	8.75	4.07	3.35	3.35	3.35	0.00	8.03	2.29
10-Aug-18	2.86	7.70	3.67	3.35	3.35	3.35	0.71	5.95	2.64
11-Aug-18	2.90	7.87	3.85	3.51	3.51	3.51	0.00	3.45	1.94
12-Aug-18	2.44	4.80	3.15	3.51	3.87	3.59	0.00	3.45	1.50
13-Aug-18	2.57	5.37	3.38	3.65	3.65	3.65	0.00	8.24	1.96
14-Aug-18	2.59	8.02	3.38	3.65	3.65	3.65	0.00	6.16	2.21
15-Aug-18	1.87	4.60	2.89	3.31	3.31	3.31	0.00	3.24	1.44
16-Aug-18	1.79	8.10	3.76	3.45	3.45	3.45	0.00	3.24	1.44
17-Aug-18	2.44	7.10	3.51	3.35	3.35	3.35	0.00	6.36	1.90
18-Aug-18	1.75	8.20	3.12	3.45	3.45	3.45	0.00	5.95	2.20
19-Aug-18	2.25	7.00	2.87	2.85	2.85	2.85	0.00	3.24	1.61
20-Aug-18	2.44	8.00	3.31	3.35	3.35	3.35	0.00	3.45	1.33
21-Aug-18	1.75	5.40	2.99	3.35	3.35	3.35	0.00	5.95	1.80
22-Aug-18	1.90	5.27	2.95	2.89	2.89	2.89	0.00	5.74	2.21
23-Aug-18	2.34	7.50	3.52	2.69	2.69	2.69	0.00	5.11	2.32
24-Aug-18	2.74	8.34	3.72	3.20	3.20	3.20	0.00	6.36	2.09
25-Aug-18	2.65	8.00	3.49	3.20	3.20	3.20	0.00	3.45	1.62
26-Aug-18	2.19	5.44	2.93	2.75	2.75	2.75	0.00	3.45	1.48
27-Aug-18	2.30	6.00	3.33	3.20	3.20	3.20	0.00	6.16	2.19
28-Aug-18	1.75	5.00	2.89	2.85	2.85	2.85	0.00	5.32	2.30
29-Aug-18	2.30	5.40	3.04	2.65	2.65	2.65	0.00	5.95	2.09
30-Aug-18	2.35	6.90	3.28	2.65	2.65	2.65	0.00	5.74	2.06
31-Aug-18	2.66	8.40	3.56	2.65	2.65	2.65	0.00	5.95	1.99
	1.75#	9.00#	3.43	2.65#	3.87#	3.14	0.00#	8.24#	2.02
Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.									
* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.									
** Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.									
# Maximum/Minimum in the month									

Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY*-WISE) (MUs), AUGUST 2018										
Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	0.00	1597.47	1597.47	37.98	4.80	-33.18	25.30	44.11	-18.81	1545.48
HARYANA	5.31	1493.13	1487.82	130.89	54.32	-76.56	92.54	18.26	74.28	1485.54
RAJASTHAN	81.52	99.75	18.23	203.04	138.26	-64.78	114.58	39.44	75.14	28.59
DELHI	7.98	654.34	646.36	287.14	4.85	-282.29	20.06	32.89	-12.83	351.23
UP	1.36	1468.83	1467.47	137.98	3.43	-134.55	101.91	47.67	54.24	1387.16
UTTARAKHAND	230.32	253.42	23.09	44.39	105.46	61.08	12.79	37.43	-24.64	59.53
HP	1136.59	2.69	-1133.90	158.11	32.66	-125.46	70.69	5.46	65.23	-1194.13
J & K	760.61	0.00	-760.61	18.49	244.31	225.83	17.33	68.06	-50.73	-585.52
CHANDIGARH	0.00	0.00	0.00	23.49	0.21	-23.29	13.08	3.98	9.10	-14.19
MP	807.74	7.95	-799.79	177.59	10.14	-167.45	46.73	56.87	-10.14	-977.38
MAHARASHTRA	139.56	209.39	69.83	69.63	304.19	234.56	61.14	91.43	-30.29	274.10
GUJARAT	414.86	276.88	-137.98	26.60	280.16	253.56	49.54	89.81	-40.27	75.31
CHHATTISGARH	0.00	179.04	179.04	21.42	44.25	22.83	36.94	25.98	10.96	212.83
GOA	10.78	4.72	-6.06	4.91	28.93	24.02	7.93	13.95	-6.03	11.94
DAMAN AND DIU	0.00	0.00	0.00	0.00	31.18	31.18	28.25	0.11	28.14	59.32
DADRA & NAGAR	0.00	38.91	38.91	4.79	17.61	12.83	35.64	0.34	35.31	87.05
ANDHRA P	818.20	161.01	-657.19	83.40	142.47	59.07	39.33	62.56	-23.23	-621.35
KARNATAKA	37.88	2.80	-35.08	239.08	147.20	-91.88	70.62	58.94	11.68	-115.28
KERALA	74.57	0.00	-74.57	194.37	26.71	-167.66	18.73	31.20	-12.47	-254.70
TAMIL NADU	380.82	21.48	-359.34	14.32	94.62	80.31	57.58	78.37	-20.79	-299.83
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	6.02	3.88	2.14	2.14
TELANGANA	48.97	474.18	425.21	332.81	301.12	-31.69	66.19	39.74	26.45	419.97
WEST BENGAL	196.39	318.76	122.37	25.89	416.10	390.21	127.51	5.01	122.50	635.08
ODISHA	26.37	98.98	72.61	40.69	649.22	608.53	107.39	4.62	102.77	783.92
BIHAR	0.10	205.89	205.79	1.59	551.32	549.73	53.58	33.08	20.50	776.03
JHARKHAND	0.00	94.80	94.80	1.68	0.00	-1.68	26.77	11.03	15.75	108.86
SIKKIM	23.82	0.00	-23.82	44.80	0.00	-44.80	1.25	6.05	-4.80	-73.42
DVC	236.60	2.72	-233.88	35.95	19.91	-16.04	141.21	4.64	136.57	-113.35
ARUNACHAL P	0.00	0.00	0.00	0.00	0.00	0.00	4.11	10.53	-6.42	-6.42
ASSAM	0.20	93.60	93.40	16.08	145.92	129.84	31.20	8.79	22.41	245.65
MANIPUR	18.91	0.00	-18.91	14.81	0.31	-14.51	1.55	7.14	-5.59	-39.00
MEGHALAYA	69.90	0.00	-69.90	44.47	19.95	-24.52	1.61	9.24	-7.62	-102.04
MIZORAM	10.69	0.00	-10.69	19.02	0.00	-19.02	1.56	5.74	-4.18	-33.89
NAGALAND	10.57	0.00	-10.57	1.44	0.00	-1.44	4.48	4.81	-0.32	-12.33
TRIPURA	0.00	3.01	3.01	25.03	2.54	-22.49	8.46	9.14	-0.67	-20.15
NTPC -NR	0.00	0.00	0.00	11.29	0.00	-11.29	86.08	54.34	31.74	20.45
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	3.68	7.47	-3.79	-3.79
AD HYDRO	28.61	0.00	-28.61	79.83	0.00	-79.83	10.42	7.42	3.00	-105.43
KARCHAM WANGT	118.83	0.00	-118.83	29.34	0.00	-29.34	9.91	9.99	-0.07	-148.24
SHREE CEMENT	107.02	0.00	-107.02	36.69	0.00	-36.69	6.27	1.60	4.68	-139.03
LANCO BUDHIL	0.00	0.00	0.00	4.98	0.00	-4.98	3.26	2.36	0.89	-4.09
MALANA	3.21	0.00	-3.21	8.84	0.00	-8.84	1.06	0.53	0.54	-11.51
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	12.11	2.00	10.10	10.10
SAINJ HEP	18.60	0.00	-18.60	59.31	0.00	-59.31	0.00	0.00	0.00	-77.91
NTPC -WR	0.00	0.00	0.00	0.52	0.00	-0.52	98.34	67.48	30.86	30.34
JINDAL POWER	12.31	0.00	-12.31	10.02	0.00	-10.02	3.42	5.40	-1.98	-24.31
LANCO_AMK	8.93	0.00	-8.93	0.00	0.00	0.00	1.19	5.74	-4.55	-13.47
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	8.21	3.06	5.15	5.15
ACBIL	0.76	0.00	-0.76	35.32	0.00	-35.32	5.49	2.07	3.42	-32.65
BALCO	0.46	0.00	-0.46	5.12	0.00	-5.12	12.67	2.20	10.47	4.89
RGPPL	0.00	0.00	0.00	0.00	0.00	0.00	11.36	0.92	10.43	10.43
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	36.38	4.78	31.60	31.60
ESSAR STEEL	0.00	174.27	174.27	0.00	157.47	157.47	27.59	23.41	4.18	335.92
KSK MAHANADI	0.00	0.00	0.00	0.00	0.00	0.00	3.32	2.97	0.35	0.35
ESSAR POWER	166.90	0.00	-166.90	63.98	0.00	-63.98	5.20	2.00	3.21	-227.67

JINDAL STAGE-II	50.58	0.00	-50.58	15.69	0.00	-15.69	11.84	2.21	9.63	-56.63
DB POWER	129.13	0.00	-129.13	47.87	0.00	-47.87	1.14	3.45	-2.31	-179.31
DHARIWAL POWER	0.00	0.00	0.00	0.30	0.00	-0.30	0.53	0.77	-0.24	-0.54
JAYPEE NIGRIE	181.54	0.00	-181.54	45.53	0.00	-45.53	1.99	12.97	-10.98	-238.05
GMR CHATTISGAR	290.07	0.00	-290.07	11.28	0.00	-11.28	10.00	1.71	8.29	-293.06
KORBA WEST	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.64	0.64
MB POWER	110.13	0.00	-110.13	117.72	0.00	-117.72	7.39	6.46	0.93	-226.92
MARUTI COAL	0.00	0.00	0.00	29.66	0.00	-29.66	0.00	0.00	0.00	-29.66
SPECTRUM	1.72	0.00	-1.72	58.10	0.00	-58.10	0.00	0.00	0.00	-59.82
JHABUA POWER	2.98	0.00	-2.98	18.30	0.00	-18.30	8.55	1.19	7.36	-13.92
SASAN UMPP	0.00	0.00	0.00	0.00	0.00	0.00	1.11	65.03	-63.92	-63.92
TRN ENERGY	9.11	0.00	-9.11	13.16	0.00	-13.16	0.93	2.17	-1.25	-23.52
RKM POWER	0.00	0.00	0.00	0.00	0.00	0.00	2.75	0.68	2.07	2.07
SKS POWER	81.30	0.00	-81.30	18.83	0.00	-18.83	6.54	1.20	5.34	-94.79
NTPC –SR	0.12	0.00	-0.12	32.93	0.00	-32.93	36.57	28.67	7.89	-25.15
LANKO KONDAPA	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.85	0.85
SIMHAPURI	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.87	0.87
COASTGEN	0.00	0.00	0.00	0.00	0.00	0.00	1.94	2.09	-0.15	-0.15
THERMAL POWER	116.81	0.00	-116.81	9.33	0.00	-9.33	15.10	2.76	12.34	-113.80
ILF&S	0.00	0.00	0.00	2.19	0.00	-2.19	12.50	0.92	11.58	9.39
NLC	0.00	0.00	0.00	197.28	0.00	-197.28	8.12	57.32	-49.20	-246.48
SEMBCORP	590.93	0.00	-590.93	89.12	0.00	-89.12	8.14	4.20	3.94	-676.11
NETCL VALLUR	0.00	0.00	0.00	0.00	0.00	0.00	11.66	4.64	7.02	7.02
NTPC –ER	0.00	0.00	0.00	0.00	0.00	0.00	74.48	34.34	40.14	40.14
MAITHON POWER	0.00	0.00	0.00	0.00	0.00	0.00	4.56	5.03	-0.47	-0.47
ADHUNIK POWER	94.80	0.00	-94.80	2.36	0.00	-2.36	4.28	0.47	3.82	-93.34
CHUZACHEN HEP	56.10	0.00	-56.10	8.16	0.00	-8.16	4.34	5.37	-1.03	-65.29
RANGIT HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.95	-0.91	-0.91
GMR KAMALANGA	1.85	0.00	-1.85	5.79	0.00	-5.79	15.26	3.20	12.06	4.42
JITPL	79.02	0.00	-79.02	0.00	0.00	0.00	1.49	1.73	-0.24	-79.26
TEESTA HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.16	5.01	-4.85	-4.85
DAGACHU	90.92	0.00	-90.92	0.00	0.00	0.00	9.81	0.03	9.78	-81.14
JORETHANG	57.06	0.00	-57.06	8.07	0.00	-8.07	2.00	3.71	-1.71	-66.83
NEPAL(NVVN)	0.00	61.10	61.10	0.00	0.00	0.00	21.93	1.44	20.50	81.59
BANGLADESH	0.00	183.77	183.77	0.00	0.00	0.00	2.68	2.57	0.11	183.88
TEESTA STG3	24.29	0.00	-24.29	361.65	0.00	-361.65	1.87	7.82	-5.95	-391.89
DIKCHU HEP	35.48	0.00	-35.48	29.77	0.00	-29.77	0.25	2.72	-2.46	-67.72
TASHIDENG HEP	57.54	0.00	-57.54	9.04	0.00	-9.04	2.94	5.20	-2.26	-68.84
BRBCL,NABINAGA	0.00	0.00	0.00	0.10	0.00	-0.10	2.70	1.01	1.69	1.59
NTPC -NER	0.00	0.00	0.00	13.89	0.00	-13.89	0.00	0.00	0.00	-13.89
NEEPCO STN	0.00	0.00	0.00	0.00	0.00	0.00	1.19	9.58	-8.40	-8.40
RANGANADI HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.90	4.41	-3.52	-3.52
DOYANG HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.30	0.16	0.16
ONGC PALATANA	41.02	0.00	-41.02	6.42	0.00	-6.42	0.00	0.00	0.00	-47.43
LOKTAK	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.55	-0.39	-0.39

Source: NLDC

* in case of a state, the entities which are "selling" also include generators connected to state grid and the entities which are "buying" also include open access consumers.

** (-) indicates sale and (+) indicates purchase,

*** Total net includes net of transactions through bilateral, power exchange and DSM

Figure 7: Bilateral Contracts executed by Traders in September, 2018

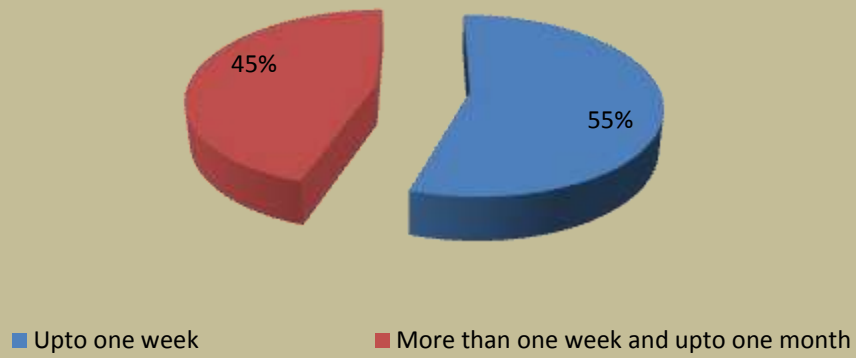


Figure-8: Forward Curve based on Prices of Bilateral Contracts

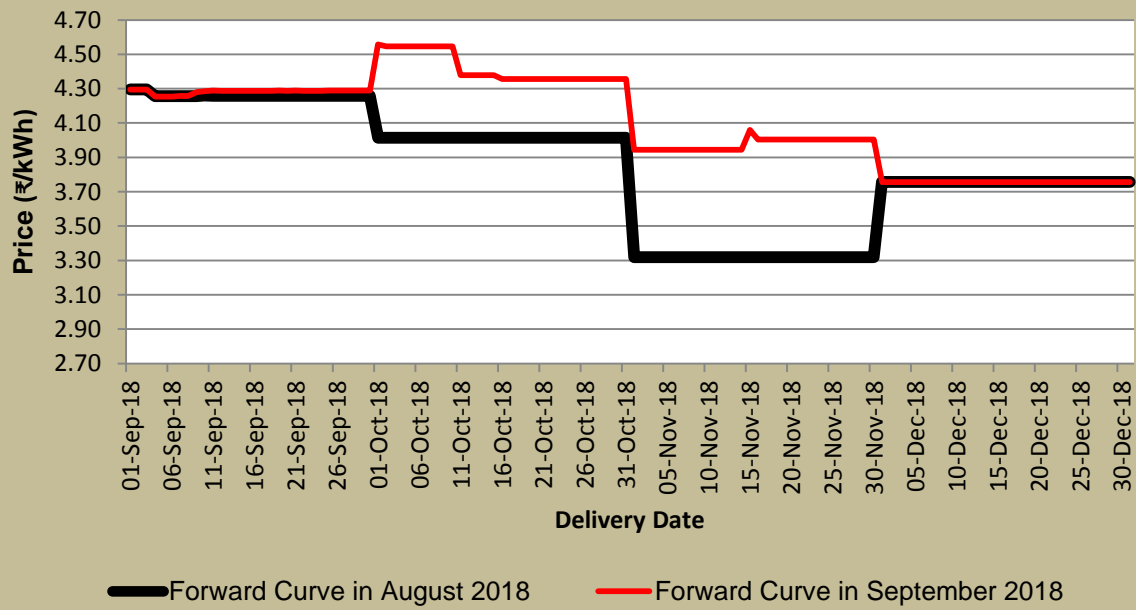


Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTED THROUGH POWER EXCHANGES, AUGUST 2018					
Sr.No.	Details of REC Transactions	IEX		PXIL	
		Solar	Non-Solar	Solar	Non Solar
A	Volume of Buy Bid	216223	668060	269906	297870
B	Volume of Sell Bid	1458702	428575	940011	59074
C	Ratio of Buy Bid to Sell Bid Volume	0.15	1.56	0.29	5.04
D	Market Clearing Volume (MWh)	216223	291588	269906	41891
E	Weighted average Market Clearing Price (₹/MWh)	1000	1200	1000	1101

Source: IEX and PXIL

Note 1: 1 REC = 1 MWh

Note 2: <i>Forbearance and Floor Price w.e.f 1st April 2017</i>		
Type of REC	Floor Price (₹/MWh)	Forbearance Price (₹/MWh)
Solar	1000.00	2500.00
Non-Solar	1000.00	2900.00