

Monthly Report on Short-term Transactions of Electricity in India

September, 2019



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Abbreviations

Abbreviation	Expanded Version
ACBIL	ACB (India) Limited
ACP	Area Clearing Price
ACV	Area Clearing Volume
ACME_RUMS	Acme Rewa Ultra Mega Solar Project
ARINSUM_RUMS	Solenergi Rewa Ultra Mega Solar Project
BALCO	Bharat Aluminum Company Limited
BARC	Bhabha Atomic Research Centre
BBMB	Bhakra Beas Management Board
BRBCL	Bhartiya Rail Bijlee Company Limited
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGPL	Coastal Gujarat Power Limited
CHUKHA HEP	Chhukha Hydroelectric Project, Bhutan
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
DIKCHU HEP	Dikchu Hydro-electric Project, Sikkim
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
GIWEL_BHUI	Green infra wind energy Limited, Bhuj
GMR CHHATTISGARH	GMR Chhattisgarh Energy Limited
GMR KAMALANGA	GMR Kamalanga Energy Ltd.
HVDC CHAMPA	Champa-Kurukshetra High Voltage Direct Current Link
IEX	Indian Energy Exchange Limited
IGSTPS	Indira Gandhi Super Thermal Power Station Jhajjar
IL&FS	Infrastructure Leasing & Financial Services Limited
INOX_BHUI	INOX Wind Limited, Bhuj, Gujarat
J&K	Jammu & Kashmir
JAYPEE NIGRIE	Jaypee Nigrie Super Thermal Power Project
JHABUA POWER MP	Jhabua 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
KAPP 3&4	Kakrapar Atomic Power Station Unit 3 & 4
KARCHAM WANGTOO	Karcham Wangtoo H.E. Project
KORBA WEST POWER	Korba West Power Company Limited

KOTESHWAR	Koteshwar Hydro Power project
KSK MAHANADI	KSK Mahanadi Power Ltd
KURICHU HEP	Kurichhu Hydro-electric Power Station, Bhutan
LANKO_AMK	LancoAmarkantak Power Private Limited
LANKO BUDHIL	LancoBudhil Hydro Power Private Limited
LANKO KONDAPALLY	LancoKondapally Power Private Limited
LOKTAK	Loktak Power Project
MAHINDRA_RUMS	Mahindra Rewa Ultra Mega Solar Project
MALANA	Malana Hydroelectric Plant
MANGDECHU HEP	Mangdechhu Hydroelectric Project, Mangdechhu River, Bhutan
Maruti Coal	Maruti Clean Coal and Power Limited
MB POWER	MB Power Ltd
MEENAKSHI	Meenakshi Energy Private Limited
MP	Madhya Pradesh
MTPS II	Muzaffarpur Thermal Power Station – Stage II
MUs	Million Units
NAPP	Narora Atomic Power Plant
NEEPCO	North Eastern Electric Power Corporation Limited
NEP	Nepal
NFL	National Fertilisers Limited
NHPC STATIONS	National Hydro Electric Power Corporation Ltd. Stations
NJPC	Nathpa Jhakri Hydroelectric Power Station
NLC	Neyveli Lignite Corporation Limited
NLDC	National Load Dispatch Centre
NPGC	Nabinagar Power Generating Company (Pvt.) Limited
NSPCL	NTPC - SAIL Power Company Private Limited
NTECL Vallur	NTPC Tamil Nadu Energy Company Limited Vallur
NTPC STATIONS	National Thermal Power Corporation Ltd. Stations
NTPL	NLC Tamil Nadu Power Limited
NVVN	NTPC Vidyut Vyapar Nigam Limited
ONGC Platana	ONGC Tripura Power Company
OPGC	Odisha Power Generation Corporation
OSTRO	Ostro Energy Private Limited
OTC	Over The Counter
PARE HEP	Pare hydroelectric project, Arunachal Pradesh
PX	Power Exchange
PXIL	Power Exchange India Limited
RAIL	Indian Railways
RAMPUR HEP	Rampur Hydro Electric Power Project
RANGIT HEP	Rangit Hydroelectric power project
RANGANADI HEP	Ranganadi Hydro Electric Power Project, Arunachal Pradesh
RAP-B	Rajasthan Atomic Power Plant-B
RAP-C	Rajasthan Atomic Power Plant-C
REC	Renewable Energy Certificate
RENEW_BHACHAU	ReNew Power Limited, Bhachau
RGPPL	Ratnagiri Gas and Power Private Limited

RLDC	Regional Load Dispatch 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 Chhattisgarh Limited
SPECTRUM	Spectrum Power Generation Ltd
TALA HEP	Tala Hydroelectric Project, Bhutan
TASHIDENG HEP	Tashiding Hydro Electric Project, Sikkim
TEESTA STG3	Teesta Stage 3 Hydro Power Project
TEHRI	Tehri Hydro Electric Power Project
THERMAL POWERTECH	Thermal Powertech Corporation India Limited
URI-II	Uri-II Hydropower 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) 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 **September, 2019** are as under:

I: Volume of Short-term Transactions of Electricity

During September 2019, total electricity generation excluding generation from renewable and captive power plants in India was 104587.94 MUs (Table-1).

Of the total electricity generation, 13219.33 MUs (12.64%) was transacted through short-term, comprising of 7674.63 MUs (7.34%) through bilateral (through traders and term-ahead contracts on power exchanges and directly between distribution companies), followed by 3488.60 MUs (3.34%) through day ahead collective transactions on power exchanges and 2056.11 MUs (1.97%) through DSM (Table-1 & Figure-2).

Of the total short-term transactions, bilateral constitutes 58.06% (35.27% through traders and term-ahead contracts on power exchanges and 22.78% directly between distribution companies) followed by 26.39% through day ahead collective transactions on power exchanges and 15.55% 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 36 trading licensees as on September 2019. In September 2019, 23 trading licensees were engaged in short term trading. Top 5 trading licensees had a share of 74.91% in the total volume traded by all the licensees. These are PTC India Ltd., Manikaran Power Ltd., Arunachal Pradesh Power Corporation Pvt. Ltd., Kreate Energy (I) Pvt. Ltd., and TATA Power Trading Company (P) 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 0.1601 for the month of September 2019, which indicates moderate concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL in the day ahead market was 3487.57 MUs and 1.03 MUs respectively. The volume of total buy bids and sell bids was 4065.88 MUs and 8569.76 MUs respectively in IEX while the same was 1.03 MUs and 32.75 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 436.09 MUs and 390.45 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 ₹2.86/kWh, ₹7.80/kWh and ₹4.56/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 ₹4.14/kWh, ₹5.74/kWh and ₹5.31/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 ₹1.00/kWh, ₹6.73/kWh and ₹2.87/kWh respectively in IEX and these were ₹2.51/kWh, ₹3.15/kWh and ₹2.85/kWh respectively in PXIL (Table-5).

The price of electricity transacted through IEX and PXIL in the term-ahead market was ₹3.75/kWh and ₹3.66/kWh respectively (Table-6 and Table-7).

(iii) Price of electricity transacted through DSM: The average deviation settlement price was ₹2.50/kWh. The minimum and maximum deviation settlement prices were ₹0.00/kWh and ₹8.00/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: Trading Margin

As per the CERC (Fixation of Trading Margin) Regulations, 2010, the trading licensees are allowed to charge trading margin upto 7 paise/kWh in case the sale price exceeds ₹3/kWh, and 4 paise/kWh where the sale price is less than or equal to ₹3/kWh. The weighted average trading margin charged by the trading licensees for bilateral transactions during the month is ₹0.039/kWh where the sale price was less than or equal to ₹3/kWh and ₹0.030/kWh when the sale price exceeded ₹3/kWh.

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

Of the total bilateral transactions, top 5 regional entities sold 43.14% of the volume, and these were Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Gujarat and GMR

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.

Chhattisgarh Energy Limited. Top 5 regional entities purchased 62.28% of the volume, and these were Haryana, Punjab, West Bengal, Uttar Pradesh, and Delhi (Table-9 & 10).

Of the total power exchange transactions, top 5 regional entities sold 48.08% of the volume, and these were Teesta Stage 3 Hydro Power Project, Madhya Pradesh, Karnataka, Himachal Pradesh, and Telangana. Top 5 regional entities purchased 47.48% of the volume, and these were Maharashtra, Gujarat, Chhattisgarh, Bihar, and Delhi (Table-11 & 12).

Of the total DSM transactions, top 5 regional entities under drew 29.62% of the volume, and these were Odisha Power Generation Corporation, Madhya Pradesh, Chhukha Hydroelectric Project Bhutan, Rajasthan and NHPC Stations (Table-13). Top 5 regional entities overdrew 33.73% of the volume, and these were Odisha, Tala Hydroelectric Project Bhutan, Uttar Pradesh, NTPC Station (Western Region) and Andhra 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 Madhya Pradesh, Himachal Pradesh, Teesta Stage 3 Hydro Power Project, Andhra Pradesh and Thermal Powertech Corporation India Ltd.. Top 5 electricity purchasing regional entities were Haryana, Punjab, Uttar Pradesh, Delhi and West Bengal.

V: 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

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

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 September 2019, 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 & other reasons 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.

During the month, the volume of electricity that could not be cleared in IEX due to congestion was 1.34% of the unconstrained cleared volume. In terms of time, congestion occurred was 15.73% in IEX (Table-16).

VI: Bilateral Contracts executed by Traders

The above sections covered an analysis on short-term transactions of electricity in September, 2019. This section covers an analysis of bilateral contracts executed in October, 2019.

(i) Duration of bilateral contracts: During October 2019, a total of 92 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 258.78 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 90.22% of the bilateral contracts were executed for duration of up to one week, 9.78% 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 and up to twelve months.

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, 7 banking/swapping bilateral contracts were also executed for the volume of 425.90 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 October, 2019 to 31st January, 2020 based on the bilateral contracts⁴ executed till October, 2019. Forward curves have been drawn for the contracts executed in September, 2019 and October, 2019 for the purpose of comparison. It is observed that the forward contract prices are lower for the contracts executed in October 2019 compared to the contracts executed in September 2019, during the period from 7th October 2019 to 15th November 2019.

VII: 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 May, 2011.

The details of REC transactions for the month of September, 2019 are shown in Table-20. The market clearing volume of solar RECs transacted on IEX and PXIL were 58919 and 23484 respectively and the weighted average market clearing price of these RECs

⁴Excluding Banking/Swapping contracts

was ₹2250/MWh in IEX and ₹2200/MWh in PXIL. Market clearing volume of non-solar RECs transacted on IEX and PXIL were 345866 and 92695 respectively and the weighted average market clearing price of these RECs was ₹1500/MWh in IEX and ₹1780/MWh in PXIL. For Non-solar RECs issued before 1st April 2017, the market clearing volume on IEX and PXIL were 128971 and 150500 respectively and the weighted average market clearing price of these RECs was ₹1625/MWh in IEX and ₹1700/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 8.66 and 6.16 in IEX and PXIL respectively. For non-solar RECs, the ratio of buy bids to sell bids was 0.87 and 1.95 in IEX and PXIL respectively.

VIII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 12.64%.
- Of the total short-term transactions, bilateral constitutes 58.06% (35.27% through traders and term-ahead contracts on power exchanges and 22.78% directly between distribution companies) followed by 26.39% through day ahead collective transactions on power exchanges and 15.55% through DSM.
- Top 5 trading licensees had a share of 74.91% 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 0.1601, indicating moderate concentration of market power.
- The weighted average price of electricity transacted through trading licensees was ₹4.56/kWh. The weighted average price of electricity transacted through IEX and PXIL were ₹2.87/kWh and ₹2.85/kWh respectively.
- The average price of electricity transacted through DSM was ₹2.50/kWh.
- The weighted average trading margin charged by the trading licensees for bilateral transactions during the month was ₹0.039/kWh where the sale price was less than or equal to ₹3/kWh and ₹0.030/kWh when the sale price exceeded ₹3/kWh. The trading margin charged during the month was in line with the Trading Margin regulations.
- Top 5 electricity selling regional entities were Madhya Pradesh, Himachal Pradesh, Teesta Stage 3 Hydro Power Project, Andhra Pradesh and Thermal Powertech Corporation India Ltd.. Top 5 electricity purchasing regional entities were Haryana, Punjab, Uttar Pradesh, Delhi and West Bengal.
- During the month of September 2019, the volume of electricity that could not be cleared in IEX due to congestion was 1.34% of the unconstrained cleared volume. In terms of time, congestion occurred was 15.73% in IEX. PXIL did not witness any congestion.

- In October 2019, 90.22% of the bilateral contracts were executed for duration of up to one week, 9.78% 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 and up to twelve months.
- The forward curves for contracts executed in October 2019 show that forward contract prices are lower for the contracts executed in October 2019 compared to the contracts executed in September 2019, during the period from 7th October 2019 – 15th November 2019.
- The market clearing volume of solar RECs transacted on IEX and PXIL were 58919 and 23484 respectively and the weighted average market clearing price of these RECs was ₹2250/MWh in IEX and ₹2200/MWh in PXIL. Market clearing volume of non-solar RECs transacted on IEX and PXIL were 345866 and 92695 respectively and the weighted average market clearing price of these RECs was ₹1500/MWh in IEX and ₹1780/MWh in PXIL.

Table-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA), SEPTEMBER 2019				
Sr. No	Short-term transactions	Volume (MUs)	% to Volume of short-term transactions	% to Total Generation
1	Bilateral	7674.63	58.06	7.34
	(i) Through Traders and PXs	4662.71	35.27	4.46
	(ii) Direct	3011.92	22.78	2.88
2	Through Power Exchanges	3488.60	26.39	3.34
	(i) IEX	3487.57	26.38	3.33
	(ii) PXIL	1.03	0.01	0.001
3	Through DSM	2056.11	15.55	1.97
	Total	13219.33	-	12.64
	Total Generation	104587.94	-	-

Source: NLDC

Figure-1: Volume of Short-term Transactions of Electricity, September 2019

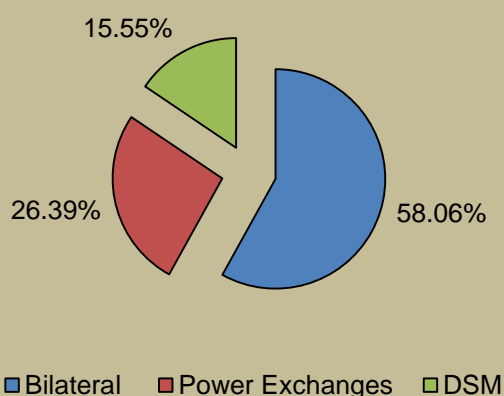
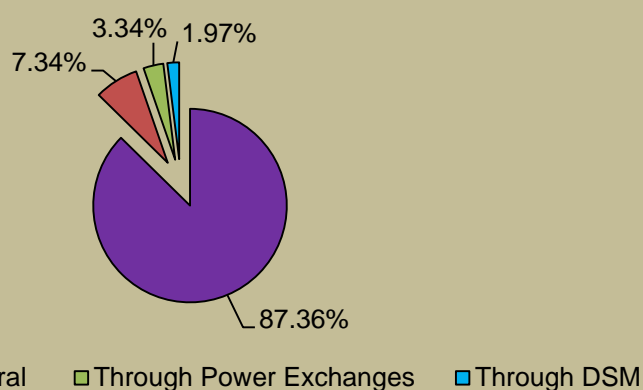


Figure-2: Volume of Various Kinds of Electricity Transactions in Total Electricity Generation, September 2019



**Figure-3: Volume of Short-term Transactions of Electricity,
September 2019 (Day-wise)**

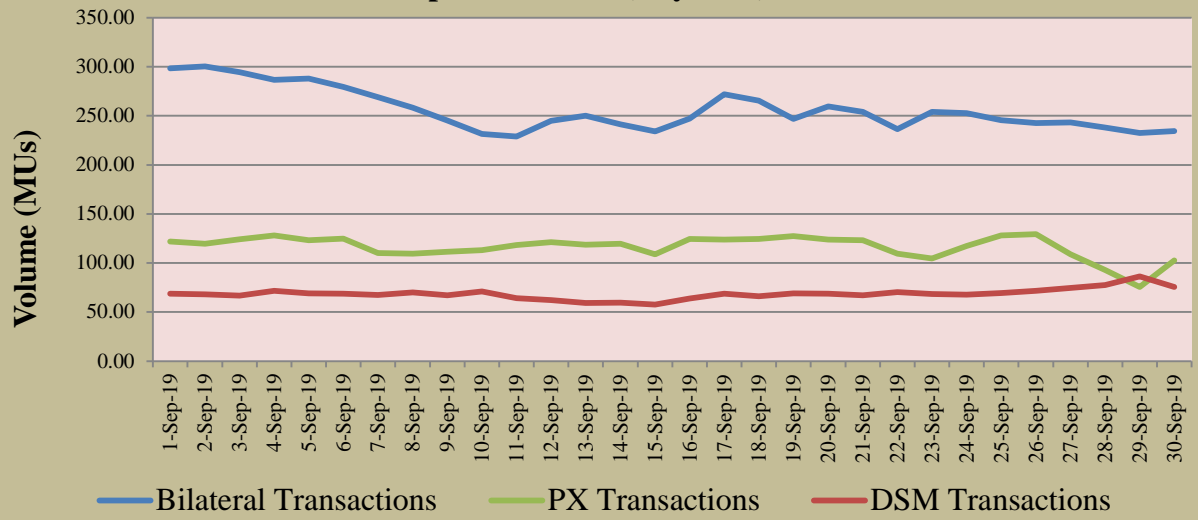


Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, SEPTEMBER 2019			
Sr.No	Name of the Trading Licensee	% Share in total Volume transacted by Trading Licensees	Herfindahl-Hirschman Index
1	PTC India Ltd.	32.08	0.1029
2	Manikaran Power Ltd.	13.63	0.0186
3	Arunachal Pradesh Power Corporation (P) ltd	10.89	0.0119
4	Kreate Energy (I) Pvt. Ltd.	10.07	0.0101
5	Tata Power Trading Company (P) Ltd.	8.24	0.0068
6	GMR Energy Trading Ltd.	7.12	0.0051
7	NTPC Vidyut Vyapar Nigam Ltd.	4.61	0.0021
8	Adani Enterprises Ltd.	3.60	0.0013
9	Jaiprakash Associates Ltd.	2.60	0.0007
10	NHPC Limited	1.38	0.0002
11	Statkraft Markets Pvt. Ltd.	1.26	0.0002
12	Essar Electric Power Development Corp. Ltd.	1.06	0.0001
13	Knowledge Infrastructure Systems (P) Ltd	0.93	0.0001
14	IPCL Power Trading Pvt. Ltd.	0.47	0.0000
15	JSW Power Trading Company Ltd	0.46	0.0000
16	National Energy Trading & Services Ltd.	0.44	0.0000
17	RPG Power Trading Company Ltd.	0.38	0.0000
18	Instinct Infra & Power Ltd.	0.33	0.0000
19	Gita Power & Infrastructure Private Limited	0.14	0.0000
20	Shree Cement Ltd.	0.14	0.0000
21	Customized Energy Solutions India (P) Ltd.	0.12	0.0000
22	Abja Power Private Limited	0.04	0.0000
23	Phillip Commodities India (P) Ltd.	0.03	0.0000
TOTAL		100.00%	0.1601
Top 5 trading licensees		74.91%	
<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>			

Figure 4: Percentage Share of Electricity Transacted by Trading Licensees, September 2019

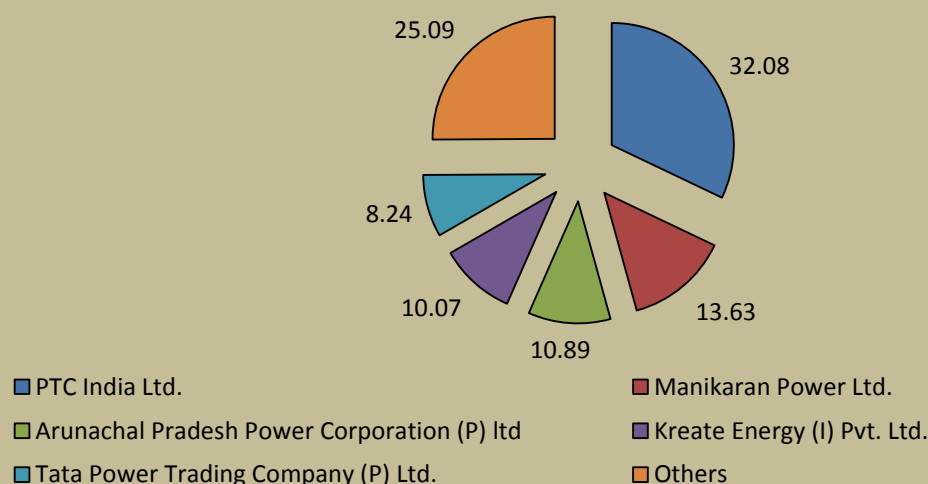


Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, SEPTEMBER 2019		
Sr.No	Item	Sale Price of Traders (₹/kWh)
1	Minimum	2.86
2	Maximum	7.80
3	Weighted Average	4.56

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), SEPTEMBER 2019		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.14
2	PEAK	5.74
3	OFF PEAK	5.31

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, SEPTEMBER 2019			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	1.00	2.51
2	Maximum	6.73	3.15
3	Weighted Average	2.87	2.85

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, SEPTEMBER 2019			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	62.04	3.93
2	Day Ahead Contingency Contracts	81.44	3.32
3	Daily Contracts	186.24	3.85
4	Weekly Contracts	106.37	3.78
	Total	436.09	3.75

Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, SEPTEMBER 2019			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	64.24	3.71
2	Any Day(s) Contracts	68.93	3.65
3	Weekly Contracts	257.29	3.65
	Total	390.45	3.66

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH DSM, SEPTEMBER 2019		
Sr.No	Item	Price in All India Grid (₹/kWh)
1	Minimum	0.00
2	Maximum	8.00
3	Average	2.50

Source: NLDC

Figure-5: Price of Short-term Transactions of Electricity, September 2019

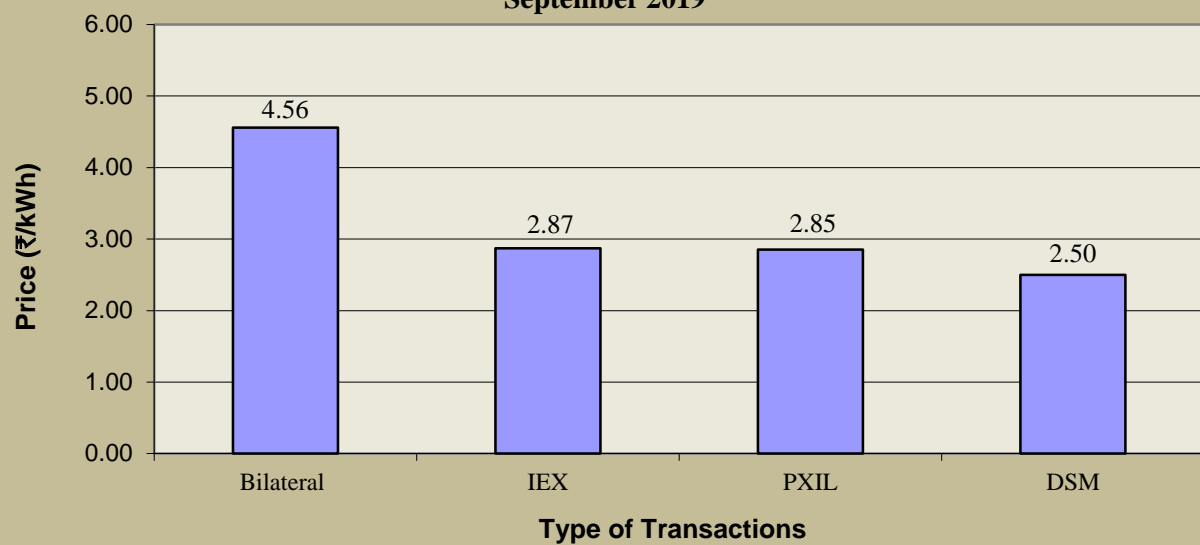
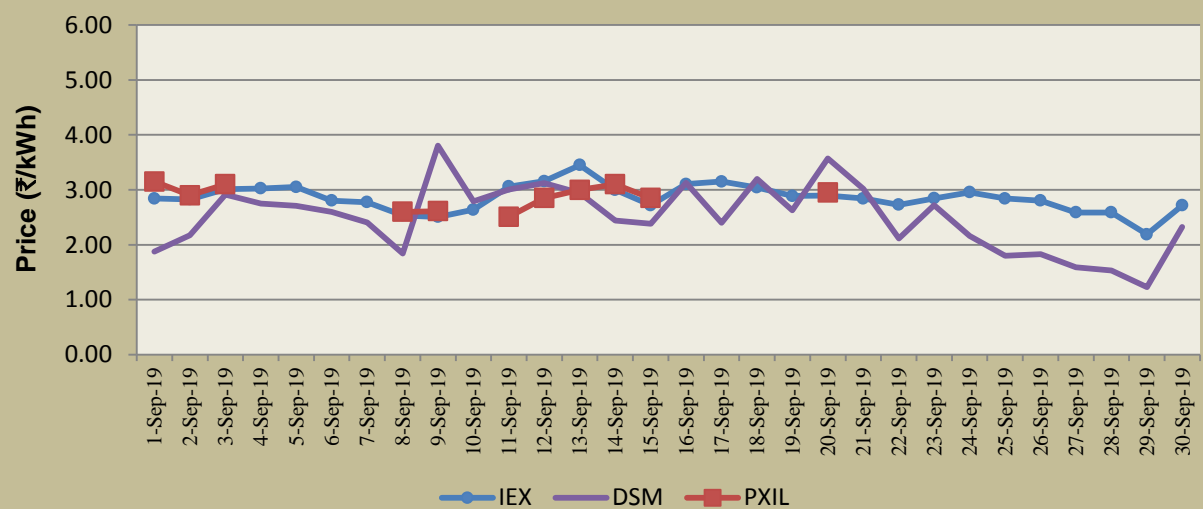


Figure-6: Price of Short-term Transactions of Electricity, September 2019 (Day-wise)



Note: In PXIL, transactions were recorded only on 1st-3rd, 8th-9th, 11th-15th and 20th September 2019

Table-9: VOLUME OF ELECTRICITY SOLD THROUGH BILATERAL, SEPTEMBER 2019		
Name of the Entity	Volume of Sale (MUs)	% of Volume
ANDHRA PRADESH	1053.86	13.68
HIMACHAL PRADESH	658.05	8.54
MP	620.99	8.06
GUJARAT	517.69	6.72
GMR CHATTISGARH	472.90	6.14
THERMAL POWERTECH	460.32	5.97
J & K	375.91	4.88
IL&FS	367.73	4.77
CHHATTISGARH	336.28	4.36
ESSAR POWER	267.12	3.47
DGEN MEGA POWER	214.43	2.78
RAJASTHAN	200.67	2.60
DB POWER	196.15	2.55
SKS POWER	162.82	2.11
WEST BENGAL	154.82	2.01
DVC	143.88	1.87
MB POWER	131.28	1.70
ADHUNIK POWER LTD	127.86	1.66
UTTARAKHAND	121.74	1.58
ODISHA	115.22	1.50
COASTGEN	94.00	1.22
DAGACHU	87.63	1.14
JAYPEE NIGRIE	74.21	0.96
KARNATAKA	74.05	0.96
CHUZACHEN HEP	68.97	0.90
TASHIDENG HEP	64.34	0.84
MEGHALAYA	63.67	0.83
JORETHANG	62.24	0.81
SHREE CEMENT	42.39	0.55
ONGC PALATANA	37.67	0.49
BALCO	35.77	0.46
KSK MAHANADI	33.02	0.43
SIKKIM	28.70	0.37
GMR KAMALANGA	25.98	0.34
GOA	25.44	0.33
DIKCHU HEP	25.06	0.33
UTTAR PRADESH	22.10	0.29
AD HYDRO	21.34	0.28
TELANGANA	17.07	0.22
JINDAL STAGE-II	15.61	0.20
KERALA	12.60	0.16
MANIPUR	9.30	0.12
ACBIL	9.29	0.12

HARYANA	8.30	0.11
KARCHAM WANGTOO	7.65	0.10
NAGALAND	7.20	0.09
BIHAR	6.63	0.09
MAHARASHTRA	5.83	0.08
JHABUA POWER_MP	4.92	0.06
TRN ENERGY	3.67	0.05
NTPC STATIONS-NER	2.91	0.04
PUNJAB	2.08	0.03
TAMIL NADU	2.07	0.03
TEESTA STG3	1.41	0.02
MIZORAM	1.34	0.02
JHARKHAND	0.30	0.004
Total	7704.46	100.00
Volume Sold by top 5 Regional Entities	3323.48	43.14

Table-10: VOLUME OF ELECTRICITY PURCHASED THROUGH BILATERAL, SEPTEMBER 2019		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
HARYANA	1426.73	18.59
PUNJAB	1300.66	16.95
WEST BENGAL	766.63	9.99
UTTAR PRADESH	653.73	8.52
DELHI	631.97	8.23
TAMIL NADU	625.99	8.16
GUJARAT	465.83	6.07
ANDHRA PRADESH	277.31	3.61
TELANGANA	230.84	3.01
CHHATTISGARH	218.03	2.84
ESSAR STEEL	175.98	2.29
BIHAR	162.91	2.12
MAHARASHTRA	143.01	1.86
BANGLADESH	140.98	1.84
JHARKHAND	129.62	1.69
NEPAL(NVVN)	122.27	1.59
ODISHA	61.77	0.80
MP	50.27	0.66
ASSAM	41.17	0.54
GOA	31.13	0.41
DVC	11.21	0.15
DADRA & NAGAR HAVELI	5.34	0.07
KARNATAKA	1.04	0.01
KERALA	0.20	0.003
TOTAL	7674.63	100.00
Volume Purchased by top 5 Regional Entities	4779.72	62.28

Table-11: VOLUME OF ELECTRICITY SOLD THROUGH POWER EXCHANGES, SEPTEMBER 2019		
Name of the Entity	Volume of Sale (MUs)	% of Volume
TEESTA STG3	671.12	19.24
MP	360.91	10.35
KARNATAKA	240.47	6.89
HIMACHAL PRADESH	209.20	6.00
TELANGANA	195.68	5.61
NLC	187.63	5.38
JHARKHAND	117.47	3.37
SEMBCORP	116.05	3.33
ASSAM	77.04	2.21
KARCHAM WANGTOO	69.84	2.00
SAINJ HEP	63.96	1.83
JAYPEE NIGRIE	63.20	1.81
AD HYDRO	61.11	1.75
SHREE CEMENT	60.18	1.72
HARYANA	59.54	1.71
RAJASTHAN	58.88	1.69
THERMAL POWERTECH	52.33	1.50
GUJARAT	51.06	1.46
DIKCHU HEP	47.65	1.37
J & K	44.57	1.28
UTTARAKHAND	40.42	1.16
GMR CHATTISGARH	39.00	1.12
MB POWER	36.11	1.03
WEST BENGAL	35.03	1.00
SIKKIM	29.64	0.85
MIZORAM	29.32	0.84
ACBIL	28.89	0.83
UTTAR PRADESH	28.75	0.82
SPECTRUM	28.38	0.81
BIHAR	27.64	0.79
MEGHALAYA	24.99	0.72
MAHARASHTRA	24.84	0.71
DELHI	23.79	0.68
ODISHA	20.58	0.59
TAMIL NADU	20.44	0.59
JINDAL POWER	18.67	0.54
ARUNACHAL PRADESH	16.98	0.49
ANDHRA PRADESH	15.57	0.45
CHANDIGARH	14.94	0.43
MARUTI COAL	13.66	0.39
TRIPURA	12.57	0.36
CHUZACHEN HEP	10.75	0.31
NTPC STATIONS-SR	10.53	0.30
ONGC PALATANA	10.21	0.29
SKS POWER	10.17	0.29
PUNJAB	10.08	0.29
TASHIDENG HEP	9.72	0.28
JORETHANG	8.80	0.25

NTPC STATIONS-NER	7.62	0.22
JINDAL STAGE-II	7.01	0.20
MALANA	6.60	0.19
ADHUNIK POWER LTD	6.57	0.19
CHHATTISGARH	6.05	0.17
DB POWER	5.35	0.15
JHABUA POWER_MP	5.06	0.15
IL&FS	4.98	0.14
LANCO BUDHIL	4.85	0.14
DGEN MEGA POWER	4.83	0.14
GOA	4.01	0.11
KERALA	3.57	0.10
ESSAR POWER	3.43	0.10
NTPC STATIONS-WR	2.92	0.08
MANIPUR	2.87	0.08
NTPC STATIONS-NR	1.11	0.03
NTPC STATIONS-ER	0.89	0.03
GMR KAMALANGA	0.75	0.02
DVC	0.71	0.02
NAGALAND	0.54	0.02
DHARIWAL POWER	0.21	0.01
COASTGEN	0.21	0.01
RGPPPL (DABHOL)	0.14	0.004
Total	3488.60	100.00
Volume sold by top 5 Regional Entities	1677.36	48.08

Table-12: VOLUME OF ELECTRICITY PURCHASED THROUGH POWER EXCHANGES, SEPTEMBER 2019		
Name of the Entity	Volume of Purchase (MUs)	% of Volume
MAHARASHTRA	503.19	14.42
GUJARAT	320.55	9.19
CHHATTISGARH	296.76	8.51
BIHAR	292.45	8.38
DELHI	243.59	6.98
UTTAR PRADESH	208.37	5.97
DADRA & NAGAR HAVELI	166.34	4.77
ODISHA	149.16	4.28
HARYANA	148.56	4.26
TELANGANA	143.61	4.12
WEST BENGAL	134.13	3.84
TAMIL NADU	132.77	3.81
ASSAM	124.61	3.57
ANDHRA PRADESH	112.41	3.22
KARNATAKA	93.82	2.69
RAJASTHAN	87.74	2.52
UTTARAKHAND	58.12	1.67
KERALA	56.02	1.61
DAMAN AND DIU	45.52	1.30
DVC	40.44	1.16
HIMACHAL PRADESH	35.31	1.01
GOA	33.78	0.97
MEGHALAYA	16.74	0.48
PUNJAB	11.80	0.34
NAGALAND	6.67	0.19
TRIPURA	4.79	0.14
CHANDIGARH	4.71	0.13
MP	4.69	0.13
J & K	4.55	0.13
ARUNACHAL PRADESH	3.21	0.09
MANIPUR	1.92	0.06
JHARKHAND	1.76	0.05
ESSAR STEEL	0.55	0.02
TOTAL	3488.60	100.00
Volume purchased by top 5 Regional Entities	1656.53	47.48

Table-13: VOLUME OF ELECTRICITY UNDER DRAWAL (EXPORTED) THROUGH DSM, SEPTEMBER 2019		
Name of the Entity	Volume of Under drawal (MUs)	% of Volume
OPGC	203.72	9.84
MP	123.88	5.99
CHUKHA HEP	98.45	4.76
RAJASTHAN	96.04	4.64
NHPC STATIONS	90.89	4.39
BIHAR	84.46	4.08
TELANGANA	81.80	3.95
MAHARASHTRA	68.80	3.32
KARNATAKA	68.78	3.32
TAMIL NADU	68.31	3.30
NTPC STATIONS-WR	66.87	3.23
SASAN UMPP	58.75	2.84
J & K	58.36	2.82
GUJARAT	54.93	2.65
NTPC STATIONS-NR	51.46	2.49
ANDHRA PRADESH	46.94	2.27
UTTAR PRADESH	43.11	2.08
NLC	38.16	1.84
PUNJAB	35.01	1.69
KURICHU HEP	34.56	1.67
HARYANA	31.69	1.53
DELHI	29.33	1.42
WEST BENGAL	27.52	1.33
NTPC STATIONS-ER	26.07	1.26
HIMACHAL PRADESH	21.58	1.04
BBMB	20.94	1.01
ESSAR STEEL	20.66	1.00
NTPC STATIONS-SR	20.64	1.00
UTTARAKHAND	20.32	0.98
DVC	19.12	0.92
JHARKHAND	15.92	0.77
CHHATTISGARH	14.47	0.70
ARUNACHAL PRADESH	13.98	0.68
NEEPCO STATIONS	12.83	0.62
TRIPURA	12.32	0.60
NPGC	9.64	0.47
ASSAM	9.36	0.45
TEESTA STG3	9.27	0.45
TEESTA HEP	9.26	0.45
KARCHAM WANGTOO	8.98	0.43
OSTRO	8.63	0.42
PONDICHERRY	8.40	0.41
GOA	7.75	0.37
GIWEL_BHUJ	7.37	0.36
MAHINDRA_RUMS	6.91	0.33

ARINSUM_RUMS	6.51	0.31
MEGHALAYA	6.40	0.31
RENEW_BHACHAU	6.28	0.30
RAMPUR HEP	6.23	0.30
MIZORAM	6.01	0.29
NEPAL(NVVN)	5.94	0.29
NJPC	5.92	0.29
MAITHON POWER LTD	5.70	0.28
MANGDECHU HEP	5.62	0.27
RAIL	5.38	0.26
JAYPEE NIGRIE	5.26	0.25
ACME_RUMS	5.20	0.25
MB POWER	4.58	0.22
THERMAL POWERTECH	4.55	0.22
NAPP	4.54	0.22
BRBCL,NABINAGAR	4.35	0.21
TEHRI	4.35	0.21
DADRA & NAGAR HAVELI	4.21	0.20
NAGALAND	4.19	0.20
BANGLADESH	4.07	0.20
DIKCHU HEP	3.98	0.19
CGPL	3.85	0.19
TASHIDENG HEP	3.59	0.17
RGPP (DABHOL)	3.57	0.17
CHANDIGARH	3.48	0.17
DAMAN AND DIU	3.45	0.17
KERALA	3.28	0.16
AD HYDRO	3.22	0.16
RANGANADI HEP	3.18	0.15
ACBIL	3.07	0.15
MANIPUR	2.99	0.14
BARC	2.88	0.14
GMR CHATTISGARH	2.84	0.14
ESSAR POWER	2.74	0.13
NTPC STATIONS-NER	2.66	0.13
TRN ENERGY	2.56	0.12
ODISHA	2.47	0.12
KOTESHWAR	2.37	0.11
SIKKIM	2.31	0.11
JITPL	2.25	0.11
LANKO_AMK	2.10	0.10
MTPS II	2.09	0.10
SKS POWER	2.08	0.10
CHUZACHEN HEP	2.03	0.10
JINDAL POWER	1.81	0.09
SEMBCORP	1.80	0.09
IGSTPS	1.65	0.08
INOX_BHUJ	1.53	0.07
RAP B	1.49	0.07

NTPL	1.40	0.07
JINDAL STAGE-II	1.35	0.07
DGEN MEGA POWER	1.16	0.06
ADHUNIK POWER LTD	1.16	0.06
KSK MAHANADI	1.12	0.05
ONGC PALATANA	1.10	0.05
NETCL VALLUR	1.09	0.05
RKM POWER	1.07	0.05
DHARIWAL POWER	1.00	0.05
PARE HEP	0.95	0.05
EMCO	0.92	0.04
COASTGEN	0.88	0.04
BALCO	0.84	0.04
NSPCL	0.84	0.04
RAP C	0.72	0.03
RANGIT HEP	0.72	0.03
JORETHANG	0.59	0.03
LANCO BUDHIL	0.47	0.02
LOKTAK	0.45	0.02
SHREE CEMENT	0.45	0.02
IL&FS	0.43	0.02
DOYANG HEP	0.42	0.02
DB POWER	0.42	0.02
MALANA	0.33	0.02
GMR KAMALANGA	0.22	0.01
NFF	0.13	0.01
TALA HEP	0.06	0.003
HVDC CHAMPA	0.05	0.002
DAGACHU	0.04	0.002
DCPP	0.03	0.002
JHABUA POWER_MP	0.03	0.001
Total	2069.31	100.00
Volume Exported by top 5 Regional Entities	612.98	29.62

Table-14: VOLUME OF ELECTRICITY OVER DRAWAL (IMPORTED) THROUGH DSM, SEPTEMBER 2019		
Name of the Entity	Volume of Over drawal (MUs)	% of Volume
ODISHA	223.74	10.96
TALA HEP	171.38	8.39
UTTAR PRADESH	115.33	5.65
NTPC STATIONS-WR	112.58	5.51
ANDHRA PRADESH	65.79	3.22
NTPC STATIONS-ER	64.99	3.18
NTPC STATIONS-NR	63.51	3.11
GUJARAT	62.13	3.04
TAMIL NADU	61.38	3.01
CHHATTISGARH	54.58	2.67
RAJASTHAN	54.48	2.67
KARNATAKA	51.14	2.50
HARYANA	50.58	2.48
WEST BENGAL	50.15	2.46
MAHARASHTRA	41.63	2.04
KERALA	38.52	1.89
DVC	36.31	1.78
CGPL	34.24	1.68
BIHAR	33.94	1.66
NTPC STATIONS-SR	30.64	1.50
TELANGANA	27.20	1.33
RGPPL (DABHOL)	23.20	1.14
ESSAR STEEL	22.86	1.12
PUNJAB	22.40	1.10
DB POWER	20.81	1.02
ASSAM	20.63	1.01
HIMACHAL PRADESH	20.15	0.99
UTTARAKHAND	19.07	0.93
DAGACHU	18.75	0.92
J & K	16.10	0.79
JHARKHAND	15.91	0.78
MP	14.80	0.72
BALCO	14.50	0.71
ADHUNIK POWER LTD	13.27	0.65
GMR KAMALANGA	13.08	0.64
DELHI	12.81	0.63
NHPC STATIONS	12.73	0.62
MANGDECHU HEP	10.34	0.51
KSK MAHANADI	10.13	0.50
NLC	9.76	0.48
CHANDIGARH	8.92	0.44
DAMAN AND DIU	8.90	0.44
GMR CHATTISGARH	8.86	0.43
KARCHAM WANGTOO	8.53	0.42
MB POWER	8.20	0.40
JHABUA POWER_MP	8.04	0.39
IGSTPS	7.97	0.39
IL&FS	7.58	0.37
NTPC STATIONS-NER	7.47	0.37

EMCO	7.21	0.35
TEESTA STG3	7.12	0.35
NEPAL(NVVN)	6.82	0.33
TRIPURA	6.46	0.32
NPGC	6.34	0.31
THERMAL POWERTECH	6.33	0.31
NETCL VALLUR	6.27	0.31
MTPS II	6.13	0.30
GIWEL_BHUI	5.99	0.29
OSTRO	5.76	0.28
SEMBCORP	5.53	0.27
RAP C	5.48	0.27
NJPC	5.42	0.27
JORETHANG	5.32	0.26
SHREE CEMENT	4.93	0.24
ACME_RUMS	4.77	0.23
ARINSUM_RUMS	4.70	0.23
JINDAL STAGE-II	4.55	0.22
NTPL	4.42	0.22
KAPP 3&4	4.23	0.21
RAIL	4.13	0.20
BBMB	4.10	0.20
ACBIL	3.69	0.18
MAHINDRA_RUMS	3.66	0.18
ESSAR POWER	3.63	0.18
MEGHALAYA	3.58	0.18
SIKKIM	3.57	0.17
RENEW_BHACHAU	3.57	0.17
BRBCL,NABINAGAR	3.49	0.17
DADRA & NAGAR HAVELI	3.47	0.17
MANIPUR	3.30	0.16
MIZORAM	3.19	0.16
NAPP	2.97	0.15
PONDICHERRY	2.97	0.15
TEHRI	2.96	0.14
COASTGEN	2.90	0.14
GOA	2.89	0.14
ARUNACHAL PRADESH	2.77	0.14
MAITHON POWER LTD	2.75	0.13
BANGLADESH	2.69	0.13
AD HYDRO	2.43	0.12
SKS POWER	2.16	0.11
NSPCL	1.95	0.10
KOTESHWAR	1.82	0.09
OPGC	1.24	0.06
JITPL	1.19	0.06
SASAN UMPP	1.18	0.06
LANKO_AMK	1.16	0.06
DHARIWAL POWER	1.10	0.05
NEEPCO STATIONS	1.08	0.05
CHUZACHEN HEP	1.06	0.05
HVDC CHAMPA	1.00	0.05
ONGC PALATANA	0.99	0.05

JINDAL POWER	0.98	0.05
NAGALAND	0.95	0.05
RKM POWER	0.93	0.05
DIKCHU HEP	0.87	0.04
JAYPEE NIGRIE	0.84	0.04
TASHIDENG HEP	0.84	0.04
RANGANADI HEP	0.83	0.04
RAMPUR HEP	0.81	0.04
INOX_BHUJ	0.69	0.03
KORBA WEST POWER	0.64	0.03
RAP B	0.59	0.03
MEENAKSHI	0.57	0.03
SIMHAPURI	0.55	0.03
LANKO KONDAPALLI	0.49	0.02
DGEN MEGA POWER	0.46	0.02
TEESTA HEP	0.39	0.02
RANGIT HEP	0.36	0.02
LANCO BUDHIL	0.36	0.02
MALANA	0.34	0.02
TRN ENERGY	0.30	0.01
DOYANG HEP	0.29	0.01
LOKTAK	0.24	0.01
NEP	0.20	0.01
NFF	0.15	0.01
PARE HEP	0.15	0.01
DCPP	0.07	0.003
KURICHU HEP	0.06	0.003
BARC	0.01	0.001
TOTAL	2042.37	100.00
Volume Imported by top 5 Regional Entities	688.82	33.73

Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE), AUGUST 2019		
S. No.	Name of the Entity	Total volume of net short-term transactions of electricity*
1	HARYANA	1526.34
2	PUNJAB	1287.69
3	UTTAR PRADESH	883.46
4	DELHI	835.25
5	WEST BENGAL	733.53
6	TAMIL NADU	729.32
7	MAHARASHTRA	588.35
8	BIHAR	370.58
9	ODISHA	296.39
10	GUJARAT	224.83
11	CHHATTISGARH	212.58
12	ESSAR STEEL	178.72
13	TALA HEP	171.32
14	DADRA & NAGAR HAVELI	170.95
15	BANGLADESH	139.60
16	NEPAL(NVVN)	123.15
17	TELANGANA	107.10
18	ASSAM	100.00
19	KERALA	75.30
20	DAMAN AND DIU	50.97
21	NTPC STATIONS-WR	42.79
22	NTPC STATIONS-ER	38.03
23	GOA	30.60
24	CGPL	30.38
25	RGPPL (DABHOL)	19.48
26	JHARKHAND	13.60
27	NTPC STATIONS-NR	10.94
28	IGSTPS	6.32
29	EMCO	6.29
30	NETCL VALLUR	5.18
31	RAP C	4.76
32	MANGDECHU HEP	4.72
33	KAPP 3&4	4.23
34	MTPS II	4.03
35	NTPL	3.01
36	NSPCL	1.12
37	HVDC CHAMPA	0.96
38	KORBA WEST POWER	0.64
39	MEENAKSHI	0.57
40	SIMHAPURI	0.55
41	LANKO KONDAPALLI	0.49
42	NEP	0.20
43	DCPP	0.04
44	NFF	0.02
45	DHARIWAL POWER	-0.12
46	DOYANG HEP	-0.13
47	RKM POWER	-0.15
48	LOKTAK	-0.21

49	RANGIT HEP	-0.36
50	ACME_RUMS	-0.43
51	NJPC	-0.50
52	NTPC STATIONS-SR	-0.53
53	KOTESHWAR	-0.55
54	PARE HEP	-0.80
55	INOX_BHUJ	-0.84
56	BRBCL,NABINAGAR	-0.87
57	RAP B	-0.90
58	LANKO_AMK	-0.94
59	JITPL	-1.06
60	RAIL	-1.25
61	GIWEL_BHUJ	-1.38
62	TEHRI	-1.40
63	NAPP	-1.57
64	ARINSUM_RUMS	-1.81
65	JHABUA POWER_MP	-1.97
66	RANGANADI HEP	-2.35
67	RENEW_BHACHAU	-2.71
68	BARC	-2.87
69	OSTRO	-2.87
70	MAITHON POWER LTD	-2.95
71	MAHINDRA_RUMS	-3.25
72	NPGC	-3.30
73	NAGALAND	-4.32
74	CHANDIGARH	-4.80
75	LANCO BUDHIL	-4.96
76	RAMPUR HEP	-5.42
77	PONDICHERRY	-5.43
78	NTPC STATIONS-NER	-5.72
79	TRN ENERGY	-5.93
80	MALANA	-6.58
81	TEESTA HEP	-8.88
82	MANIPUR	-9.95
83	NEEPCO STATIONS	-11.75
84	TRIPURA	-13.63
85	MARUTI COAL	-13.66
86	GMR KAMALANGA	-13.87
87	BBMB	-16.84
88	JINDAL STAGE-II	-19.41
89	JINDAL POWER	-19.50
90	BALCO	-22.10
91	KSK MAHANADI	-24.01
92	ARUNACHAL PRADESH	-24.98
93	SPECTRUM	-28.38
94	MIZORAM	-33.49
95	KURICHU HEP	-34.50
96	ACBIL	-37.55
97	ONGC PALATANA	-47.99
98	SIKKIM	-57.08
99	SASAN UMPP	-57.57
100	SAINJ HEP	-63.96

101	JORETHANG	-66.32
102	DAGACHU	-68.92
103	MEGHALAYA	-74.74
104	DVC	-75.75
105	DIKCHU HEP	-75.82
106	TASHIDENG HEP	-76.80
107	KARCHAM WANGTOO	-77.94
108	NHPC STATIONS	-78.16
109	CHUZACHEN HEP	-80.68
110	AD HYDRO	-83.23
111	COASTGEN	-92.19
112	SHREE CEMENT	-98.08
113	CHUKHA HEP	-98.45
114	UTTARAKHAND	-105.30
115	SEMBCORP	-112.33
116	ADHUNIK POWER LTD	-122.32
117	JAYPEE NIGRIE	-141.83
118	MB POWER	-163.76
119	SKS POWER	-172.91
120	DB POWER	-181.10
121	OPGC	-202.48
122	RAJASTHAN	-213.37
123	NLC	-216.03
124	DGEN MEGA POWER	-219.96
125	KARNATAKA	-237.31
126	ESSAR POWER	-269.65
127	IL&FS	-365.55
128	J & K	-458.19
129	GMR CHATTISGARH	-505.88
130	THERMAL POWERTECH	-510.87
131	ANDHRA PRADESH	-660.86
132	TEESTA STG3	-674.67
133	HIMACHAL PRADESH	-833.36
134	MP	-1036.01
* 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, SEPTEMBER 2019			
	Details of Congestion	IEX	PXIL
A	Unconstrained Cleared Volume (MUs)	3535.02	1.03
B	Actual Cleared Volume and hence scheduled (MUs)	3487.57	1.03
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs)	47.45	0.00
D	Volume of electricity that could not be cleared and hence not scheduled because of reasons other than congestion (MUs)	0.00	0.00
E	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	1.34%	0.00%
F	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	15.73%	0.00%
G	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	31.79%	0.00%
	6.00 - 12.00 hours	5.52%	0.00%
	12.00 - 18.00 hours	24.06%	0.00%
	18.00 - 24.00 hours	38.63%	0.00%
<i>Source: IEX & PXIL & NLDC</i>			

Table-17: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (DAY-WISE) (MUs), SEPTEMBER 2019						
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-Sep-19	186.57	111.71	121.80	0.09	68.83	3504.62
2-Sep-19	187.78	112.45	119.51	0.09	68.21	3490.13
3-Sep-19	186.66	107.83	123.99	0.08	66.68	3562.03
4-Sep-19	183.46	103.34	128.10	0.00	71.49	3567.77
5-Sep-19	184.05	103.83	123.22	0.00	69.16	3534.49
6-Sep-19	177.87	101.71	124.75	0.00	68.55	3555.67
7-Sep-19	170.23	98.76	110.13	0.00	67.41	3543.05
8-Sep-19	164.14	94.18	109.26	0.12	70.09	3411.66
9-Sep-19	144.53	100.55	111.36	0.12	66.99	3561.92
10-Sep-19	136.68	94.71	113.11	0.00	71.06	3689.95
11-Sep-19	135.09	93.70	118.36	0.10	64.05	3698.27
12-Sep-19	146.00	98.88	121.04	0.08	62.24	3603.24
13-Sep-19	147.38	102.64	118.53	0.08	59.23	3556.45
14-Sep-19	138.80	102.50	119.36	0.08	59.63	3579.63
15-Sep-19	138.60	95.64	108.58	0.11	57.62	3489.22
16-Sep-19	147.11	100.00	124.51	0.00	63.92	3581.33
17-Sep-19	154.73	117.30	123.98	0.00	68.62	3601.06
18-Sep-19	150.19	115.35	124.62	0.00	65.99	3560.35
19-Sep-19	150.72	96.09	127.49	0.00	69.13	3573.47
20-Sep-19	156.12	103.46	123.67	0.08	68.55	3618.12
21-Sep-19	154.10	99.83	123.14	0.00	67.23	3631.49
22-Sep-19	140.76	95.72	109.61	0.00	70.25	3418.38
23-Sep-19	153.65	100.32	104.61	0.00	68.41	3557.98
24-Sep-19	152.27	100.58	117.42	0.00	67.75	3545.16
25-Sep-19	150.19	95.32	127.95	0.00	69.29	3445.86
26-Sep-19	147.27	95.30	129.47	0.00	71.60	3333.19
27-Sep-19	148.67	94.45	108.84	0.00	74.56	3267.86
28-Sep-19	143.03	94.90	93.00	0.00	77.48	3140.58
29-Sep-19	142.22	90.20	75.59	0.00	86.45	2909.32
30-Sep-19	143.85	90.67	102.55	0.00	75.63	3055.69
Total	4662.71	3011.92	3487.57	1.03	2056.11	104587.94
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), SEPTEMBER 2019									
Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)		
Date	Mini mum ACP	Maxi mum ACP	Weighted Average Price*	Mini mum ACP	Maxi mum ACP	Weighted Average Price*	All India Grid		
							Mini mum Price	Maxim um Price	Average Price**
1-Sep-19	2.00	3.88	2.84	3.15	3.15	3.15	0.00	5.38	1.88
2-Sep-19	2.25	4.15	2.83	2.90	2.90	2.90	0.00	8.00	2.17
3-Sep-19	2.25	4.79	3.01	3.10	3.10	3.10	0.00	7.37	2.91
4-Sep-19	2.25	4.90	3.02	-	-	-	0.00	7.37	2.75
5-Sep-19	2.00	5.12	3.05	-	-	-	0.00	6.12	2.71
6-Sep-19	1.80	5.03	2.80	-	-	-	0.00	7.03	2.60
7-Sep-19	1.50	4.76	2.77	-	-	-	0.00	6.16	2.41
8-Sep-19	1.00	4.47	2.54	2.60	2.60	2.60	0.00	6.34	1.84
9-Sep-19	1.77	4.78	2.51	2.61	2.61	2.61	0.00	8.00	3.80
10-Sep-19	1.50	4.92	2.64	-	-	-	0.00	7.36	2.79
11-Sep-19	2.09	5.41	3.06	2.51	2.51	2.51	0.00	8.00	3.00
12-Sep-19	2.25	5.41	3.16	2.85	2.85	2.85	0.00	8.00	3.12
13-Sep-19	2.60	6.73	3.45	3.00	3.00	3.00	0.00	7.23	2.94
14-Sep-19	2.07	4.62	3.00	3.10	3.10	3.10	0.00	7.37	2.44
15-Sep-19	1.50	4.11	2.72	2.85	2.85	2.85	0.00	6.32	2.38
16-Sep-19	2.50	4.47	3.10	-	-	-	0.00	8.00	3.13
17-Sep-19	2.40	5.63	3.15	-	-	-	0.00	7.19	2.40
18-Sep-19	2.13	5.30	3.04	-	-	-	0.00	8.00	3.20
19-Sep-19	2.37	4.16	2.89	-	-	-	0.00	8.00	2.63
20-Sep-19	2.50	4.08	2.90	2.95	2.95	2.95	0.58	8.00	3.57
21-Sep-19	2.50	4.31	2.84	-	-	-	0.56	8.00	3.02
22-Sep-19	2.26	4.14	2.73	-	-	-	0.00	7.33	2.11
23-Sep-19	2.30	4.22	2.84	-	-	-	0.00	8.00	2.72
24-Sep-19	2.50	4.80	2.95	-	-	-	0.00	5.78	2.16
25-Sep-19	2.40	4.51	2.84	-	-	-	0.00	5.74	1.80
26-Sep-19	2.00	4.62	2.80	-	-	-	0.00	8.00	1.83
27-Sep-19	1.53	4.18	2.59	-	-	-	0.00	6.29	1.59
28-Sep-19	1.25	4.34	2.59	-	-	-	0.00	6.97	1.53
29-Sep-19	1.50	3.70	2.19	-	-	-	0.00	8.00	1.23
30-Sep-19	1.79	5.35	2.72	-	-	-	0.00	8.00	2.33
	1.00[#]	6.73[#]	2.87	2.51[#]	3.15[#]	2.85	0.00[#]	8.00[#]	2.50
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), SEPTEMBER 2019										
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	2.08	1300.66	1298.58	10.08	11.80	1.72	22.40	35.01	-12.61	1287.69
HARYANA	8.30	1426.73	1418.43	59.54	148.56	89.02	50.58	31.69	18.89	1526.34
RAJASTHAN	200.67	0.00	-200.67	58.88	87.74	28.86	54.48	96.04	-41.56	-213.37
DELHI	0.00	631.97	631.97	23.79	243.59	219.79	12.81	29.33	-16.52	835.25
U P	22.10	653.73	631.63	28.75	208.37	179.62	115.33	43.11	72.22	883.46
UTTARAKHAND	121.74	0.00	-121.74	40.42	58.12	17.70	19.07	20.32	-1.25	-105.30
HIMACHAL P	658.05	0.00	-658.05	209.20	35.31	-173.89	20.15	21.58	-1.42	-833.36
J & K	375.91	0.00	-375.91	44.57	4.55	-40.02	16.10	58.36	-42.26	-458.19
CHANDIGARH	0.00	0.00	0.00	14.94	4.71	-10.23	8.92	3.48	5.43	-4.80
MP	620.99	50.27	-570.71	360.91	4.69	-356.21	14.80	123.88	-109.08	-1036.01
MAHARASHTRA	5.83	143.01	137.18	24.84	503.19	478.34	41.63	68.80	-27.17	588.35
GUJARAT	517.69	465.83	-51.85	51.06	320.55	269.49	62.13	54.93	7.20	224.83
CHHATTISGARH	336.28	218.03	-118.24	6.05	296.76	290.71	54.58	14.47	40.11	212.58
GOA	25.44	31.13	5.69	4.01	33.78	29.77	2.89	7.75	-4.87	30.60
DAMAN & DIU	0.00	0.00	0.00	0.00	45.52	45.52	8.90	3.45	5.45	50.97
DADRA & NAGAR	0.00	5.34	5.34	0.00	166.34	166.34	3.47	4.21	-0.73	170.95
ANDHRA P	1053.86	277.31	-776.55	15.57	112.41	96.84	65.79	46.94	18.85	-660.86
KARNATAKA	74.05	1.04	-73.01	240.47	93.82	-146.65	51.14	68.78	-17.65	-237.31
KERALA	12.60	0.20	-12.40	3.57	56.02	52.45	38.52	3.28	35.25	75.30
TAMIL NADU	2.07	625.99	623.92	20.44	132.77	112.33	61.38	68.31	-6.93	729.32
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	2.97	8.40	-5.43	-5.43
TELANGANA	17.07	230.84	213.77	195.68	143.61	-52.07	27.20	81.80	-54.60	107.10
WEST BENGAL	154.82	766.63	611.81	35.03	134.13	99.09	50.15	27.52	22.63	733.53
ODISHA	115.22	61.77	-53.45	20.58	149.16	128.58	223.74	2.47	221.27	296.39
BIHAR	6.63	162.91	156.28	27.64	292.45	264.82	33.94	84.46	-50.52	370.58
JHARKHAND	0.30	129.62	129.32	117.47	1.76	-115.71	15.91	15.92	-0.01	13.60
SIKKIM	28.70	0.00	-28.70	29.64	0.00	-29.64	3.57	2.31	1.27	-57.08
DVC	143.88	11.21	-132.67	0.71	40.44	39.73	36.31	19.12	17.19	-75.75
ARUNACHAL P	0.00	0.00	0.00	16.98	3.21	-13.77	2.77	13.98	-11.22	-24.98
ASSAM	0.00	41.17	41.17	77.04	124.61	47.56	20.63	9.36	11.27	100.00
MANIPUR	9.30	0.00	-9.30	2.87	1.92	-0.95	3.30	2.99	0.30	-9.95
MEGHALAYA	63.67	0.00	-63.67	24.99	16.74	-8.25	3.58	6.40	-2.82	-74.74
MIZORAM	1.34	0.00	-1.34	29.32	0.00	-29.32	3.19	6.01	-2.83	-33.49
NAGALAND	7.20	0.00	-7.20	0.54	6.67	6.12	0.95	4.19	-3.24	-4.32
TRIPURA	0.00	0.00	0.00	12.57	4.79	-7.77	6.46	12.32	-5.86	-13.63
NTPC STNS-NR	0.00	0.00	0.00	1.11	0.00	-1.11	63.51	51.46	12.05	10.94
NHPC STNS	0.00	0.00	0.00	0.00	0.00	0.00	12.73	90.89	-78.16	-78.16
NFF	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.13	0.02	0.02
RAIL	0.00	0.00	0.00	0.00	0.00	0.00	4.13	5.38	-1.25	-1.25
NEP	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.20
NAPP	0.00	0.00	0.00	0.00	0.00	0.00	2.97	4.54	-1.57	-1.57
RAP B	0.00	0.00	0.00	0.00	0.00	0.00	0.59	1.49	-0.90	-0.90
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	5.42	5.92	-0.50	-0.50
TEHRI	0.00	0.00	0.00	0.00	0.00	0.00	2.96	4.35	-1.40	-1.40
BBMB	0.00	0.00	0.00	0.00	0.00	0.00	4.10	20.94	-16.84	-16.84
RAP C	0.00	0.00	0.00	0.00	0.00	0.00	5.48	0.72	4.76	4.76
AD HYDRO	21.34	0.00	-21.34	61.11	0.00	-61.11	2.43	3.22	-0.79	-83.23

IGSTPS	0.00	0.00	0.00	0.00	0.00	0.00	7.97	1.65	6.32	6.32
KOTESHWAR	0.00	0.00	0.00	0.00	0.00	0.00	1.82	2.37	-0.55	-0.55
KARCHAM WANGT	7.65	0.00	-7.65	69.84	0.00	-69.84	8.53	8.98	-0.45	-77.94
SHREE CEMENT	42.39	0.00	-42.39	60.18	0.00	-60.18	4.93	0.45	4.49	-98.08
LANCO BUDHIL	0.00	0.00	0.00	4.85	0.00	-4.85	0.36	0.47	-0.12	-4.96
RAMPUR HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.81	6.23	-5.42	-5.42
MALANA	0.00	0.00	0.00	6.60	0.00	-6.60	0.34	0.33	0.01	-6.58
SAINJ HEP	0.00	0.00	0.00	63.96	0.00	-63.96	0.00	0.00	0.00	-63.96
NTPC STNS-WR	0.00	0.00	0.00	2.92	0.00	-2.92	112.58	66.87	45.71	42.79
JINDAL POWER	0.00	0.00	0.00	18.67	0.00	-18.67	0.98	1.81	-0.83	-19.50
LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	1.16	2.10	-0.94	-0.94
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	1.95	0.84	1.12	1.12
ACBIL	9.29	0.00	-9.29	28.89	0.00	-28.89	3.69	3.07	0.62	-37.55
BALCO	35.77	0.00	-35.77	0.00	0.00	0.00	14.50	0.84	13.67	-22.10
RGPPL (DABHOL)	0.00	0.00	0.00	0.14	0.00	-0.14	23.20	3.57	19.62	19.48
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	34.24	3.85	30.38	30.38
DCPP	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.03	0.04	0.04
EMCO	0.00	0.00	0.00	0.00	0.00	0.00	7.21	0.92	6.29	6.29
ESSAR STEEL	0.00	175.98	175.98	0.00	0.55	0.55	22.86	20.66	2.19	178.72
KSK MAHANADI	33.02	0.00	-33.02	0.00	0.00	0.00	10.13	1.12	9.01	-24.01
ESSAR POWER	267.12	0.00	-267.12	3.43	0.00	-3.43	3.63	2.74	0.90	-269.65
JINDAL STAGE-II	15.61	0.00	-15.61	7.01	0.00	-7.01	4.55	1.35	3.20	-19.41
DB POWER	196.15	0.00	-196.15	5.35	0.00	-5.35	20.81	0.42	20.40	-181.10
DHARIWAL POWER	0.00	0.00	0.00	0.21	0.00	-0.21	1.10	1.00	0.09	-0.12
JAYPEE NIGRIE	74.21	0.00	-74.21	63.20	0.00	-63.20	0.84	5.26	-4.42	-141.83
DGEN MEGA POWE	214.43	0.00	-214.43	4.83	0.00	-4.83	0.46	1.16	-0.70	-219.96
GMR CHATTISGAR	472.90	0.00	-472.90	39.00	0.00	-39.00	8.86	2.84	6.02	-505.88
KORBA WEST POW	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.64	0.64
MB POWER	131.28	0.00	-131.28	36.11	0.00	-36.11	8.20	4.58	3.63	-163.76
MARUTI COAL	0.00	0.00	0.00	13.66	0.00	-13.66	0.00	0.00	0.00	-13.66
SPECTRUM	0.00	0.00	0.00	28.38	0.00	-28.38	0.00	0.00	0.00	-28.38
JHABUA POWER_M	4.92	0.00	-4.92	5.06	0.00	-5.06	8.04	0.03	8.02	-1.97
SASAN UMPP	0.00	0.00	0.00	0.00	0.00	0.00	1.18	58.75	-57.57	-57.57
TRN ENERGY	3.67	0.00	-3.67	0.00	0.00	0.00	0.30	2.56	-2.26	-5.93
RKM POWER	0.00	0.00	0.00	0.00	0.00	0.00	0.93	1.07	-0.15	-0.15
SKS POWER	162.82	0.00	-162.82	10.17	0.00	-10.17	2.16	2.08	0.08	-172.91
BARC	0.00	0.00	0.00	0.00	0.00	0.00	0.01	2.88	-2.87	-2.87
KAPP 3&4	0.00	0.00	0.00	0.00	0.00	0.00	4.23	0.00	4.23	4.23
HVDC CHAMPA	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.05	0.96	0.96
MAHINDRA_RUMS	0.00	0.00	0.00	0.00	0.00	0.00	3.66	6.91	-3.25	-3.25
ARINSUM_RUMS	0.00	0.00	0.00	0.00	0.00	0.00	4.70	6.51	-1.81	-1.81
OSTRO	0.00	0.00	0.00	0.00	0.00	0.00	5.76	8.63	-2.87	-2.87
ACME_RUMS	0.00	0.00	0.00	0.00	0.00	0.00	4.77	5.20	-0.43	-0.43
RENEW_BHACHAU	0.00	0.00	0.00	0.00	0.00	0.00	3.57	6.28	-2.71	-2.71
GIWEL_BHUJ	0.00	0.00	0.00	0.00	0.00	0.00	5.99	7.37	-1.38	-1.38
INOX_BHUJ	0.00	0.00	0.00	0.00	0.00	0.00	0.69	1.53	-0.84	-0.84
NTPC STNS-SR	0.00	0.00	0.00	10.53	0.00	-10.53	30.64	20.64	10.00	-0.53
LANKO KONDAPAI	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.49	0.49
SIMHAPURI	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.55	0.55
MEENAKSHI	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.57	0.57
COASTGEN	94.00	0.00	-94.00	0.21	0.00	-0.21	2.90	0.88	2.02	-92.19
THERMAL POWER T	460.32	0.00	-460.32	52.33	0.00	-52.33	6.33	4.55	1.78	-510.87
IL&FS	367.73	0.00	-367.73	4.98	0.00	-4.98	7.58	0.43	7.15	-365.55
NLC	0.00	0.00	0.00	187.63	0.00	-187.63	9.76	38.16	-28.39	-216.03

SEMBICORP	0.00	0.00	0.00	116.05	0.00	-116.05	5.53	1.80	3.72	-112.33
NETCL VALLUR	0.00	0.00	0.00	0.00	0.00	0.00	6.27	1.09	5.18	5.18
NTPL	0.00	0.00	0.00	0.00	0.00	0.00	4.42	1.40	3.01	3.01
NTPC STNS-ER	0.00	0.00	0.00	0.89	0.00	-0.89	64.99	26.07	38.92	38.03
MAITHON POWER I	0.00	0.00	0.00	0.00	0.00	0.00	2.75	5.70	-2.95	-2.95
NPGC	0.00	0.00	0.00	0.00	0.00	0.00	6.34	9.64	-3.30	-3.30
ADHUNIK POWER I	127.86	0.00	-127.86	6.57	0.00	-6.57	13.27	1.16	12.11	-122.32
CHUZACHEN HEP	68.97	0.00	-68.97	10.75	0.00	-10.75	1.06	2.03	-0.96	-80.68
RANGIT HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.72	-0.36	-0.36
GMR KAMALANGA	25.98	0.00	-25.98	0.75	0.00	-0.75	13.08	0.22	12.86	-13.87
JITPL	0.00	0.00	0.00	0.00	0.00	0.00	1.19	2.25	-1.06	-1.06
TEESTA HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.39	9.26	-8.88	-8.88
DAGACHU	87.63	0.00	-87.63	0.00	0.00	0.00	18.75	0.04	18.71	-68.92
JORETHANG	62.24	0.00	-62.24	8.80	0.00	-8.80	5.32	0.59	4.72	-66.32
NEPAL(NVVN)	0.00	122.27	122.27	0.00	0.00	0.00	6.82	5.94	0.88	123.15
BANGLADESH	0.00	140.98	140.98	0.00	0.00	0.00	2.69	4.07	-1.38	139.60
TEESTA STG3	1.41	0.00	-1.41	671.12	0.00	-671.12	7.12	9.27	-2.15	-674.67
DIKCHU HEP	25.06	0.00	-25.06	47.65	0.00	-47.65	0.87	3.98	-3.11	-75.82
TASHIDENG HEP	64.34	0.00	-64.34	9.72	0.00	-9.72	0.84	3.59	-2.74	-76.80
OPGC	0.00	0.00	0.00	0.00	0.00	0.00	1.24	203.72	-202.48	-202.48
BRBCL,NABINAGA	0.00	0.00	0.00	0.00	0.00	0.00	3.49	4.35	-0.87	-0.87
MTPS II	0.00	0.00	0.00	0.00	0.00	0.00	6.13	2.09	4.03	4.03
TALA HEP	0.00	0.00	0.00	0.00	0.00	0.00	171.38	0.06	171.32	171.32
CHUKHA HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98.45	-98.45	-98.45
KURICHU HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.06	34.56	-34.50	-34.50
MANGDECHU HEP	0.00	0.00	0.00	0.00	0.00	0.00	10.34	5.62	4.72	4.72
NTPC STNS-NER	2.91	0.00	-2.91	7.62	0.00	-7.62	7.47	2.66	4.81	-5.72
NEEPCO STNS	0.00	0.00	0.00	0.00	0.00	0.00	1.08	12.83	-11.75	-11.75
RANGANADI HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.83	3.18	-2.35	-2.35
DOYANG HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.42	-0.13	-0.13
ONGC PALATANA	37.67	0.00	-37.67	10.21	0.00	-10.21	0.99	1.10	-0.11	-47.99
LOKTAK	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.45	-0.21	-0.21
PARE HEP	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.95	-0.80	-0.80
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 October, 2019

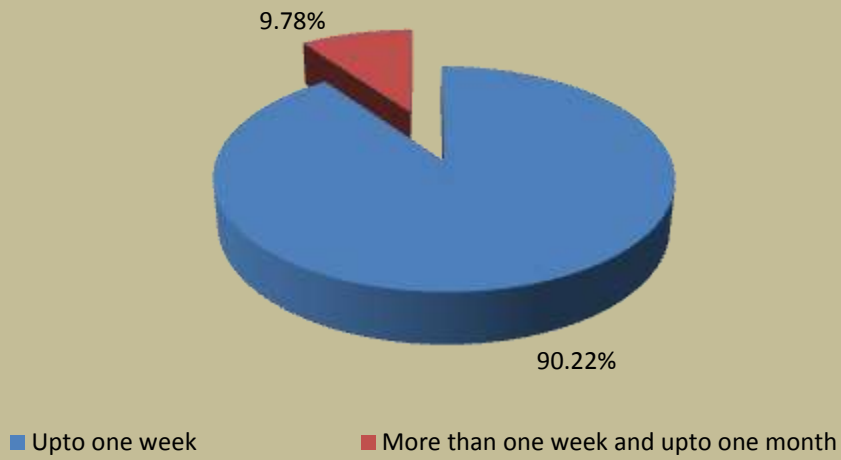


Figure-8: Forward Curve based on Prices of Bilateral Contracts

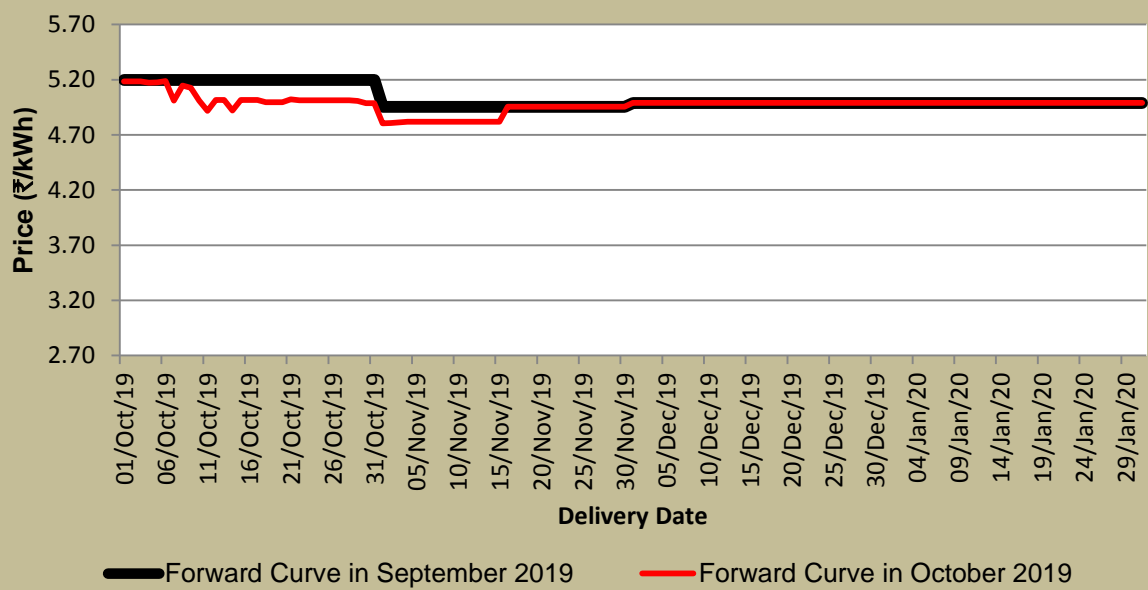


Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTED THROUGH POWER EXCHANGES, SEPTEMBER 2019							
Sr.No.	Details of REC Transactions	IEX			PXIL		
		Solar	Non-Solar	Non-Solar (issued before 1st April 2017)	Solar	Non-Solar	Non-Solar (issued before 1st April 2017)
A	Volume of Buy Bid	630421	449658	158480	217053	182084	176107
B	Volume of Sell Bid	72780	516811	150500	35234	93345	150500
C	Ratio of Buy Bid to Sell Bid Volume	8.66	0.87	1.05	6.16	1.95	1.17
D	Market Clearing Volume (MWh)	58919	345866	128971	23484	92695	150500
E	Weighted average Market Clearing Price (₹/MWh)	2250	1500	1625	2200	1780	1700

Source: IEX and PXIL

Note 1: 1 REC = 1 MWh

Note 2:

Forbearance and Floor Price w.e.f 1st April 2017		
Type of REC	Floor Price (₹/MWh)	Forbearance Price (₹/MWh)
Solar	1000.00	2400.00
Non-Solar	1000.00	3000.00