

# Monthly Report on Short-term Transactions of Electricity in India

April, 2015



Economics Division  
Central Electricity Regulatory Commission  
3<sup>rd</sup> & 4<sup>th</sup> Floor, Chanderlok Building  
36, Janpath, New Delhi -110001.



# Contents

S. No.	Contents	Page No
	Contents	2
	List of Tables and Figures	3
	Abbreviations	4
	Introduction	6
I	Volume of Short-term Transactions of Electricity	6
II	Price of Short-term Transactions of Electricity	7
(i)	<i>Price of electricity transacted through Traders</i>	7
(ii)	<i>Price of electricity transacted Through Power Exchange</i>	7
(iii)	<i>Price of electricity transacted Through DSM</i>	8
III	Volume of Short-term Transactions of Electricity (Regional Entity-wise)	8
IV	Congestion on Inter-state Transmission Corridor for Day-Ahead Market on Power Exchanges	9
V	Analysis of Bilateral Contracts executed by Traders in May 2015	10
(i)	<i>Duration of bilateral contracts</i>	10
(ii)	<i>Forward Curve based on Prices of bilateral contracts</i>	10
VI	Volume and Price of Renewable Energy Certificates (RECs)	11
VII	Inferences	12

## List of Tables and Figures

S.No.	List of Tables and Figures	Page No.
<b>I List of Tables</b>		
Table-1	Volume of Short-term Transactions of Electricity in India	14
Table-2	Percentage Share of Electricity Transacted by Trading Licensees	16
Table-3	Price of Electricity Transacted through Traders	17
Table-4	Price of Electricity Transacted through Traders (Time-wise)	17
Table-5	Price of Electricity Transacted through Power Exchanges	17
Table-6	Volume and Price of Electricity in Term Ahead Market of IEX	17
Table-7	Volume and Price of Electricity in Term Ahead Market of PXIL	17
Table-8	Price of Electricity Transacted through DSM	17
Table-9	Volume of Electricity Sale through Bilateral	19
Table-10	Volume of Electricity Purchase through Bilateral	20
Table-11	Volume of Electricity Sale through Power Exchanges	21
Table-12	Volume of Electricity Purchase through Power Exchanges	22
Table-13	Volume of Electricity Export through DSM	23
Table-14	Volume of Electricity Import through DSM	24
Table-15	Total Volume of Net Short-term Transactions of Electricity (Regional Entity-wise)	25
Table-16	Details of Congestion in Power Exchanges	27
Table-17	Volume of Short-term Transactions of Electricity in India (Day-wise)	28
Table-18	Price of Short-term Transactions of Electricity (Day-wise)	29
Table-19	Volume of Short-term Transactions of Electricity (Regional Entity-wise)	30
Table-20	Volume and Price of Renewable Energy Certificates (RECs) Transacted through Power Exchanges	33
<b>II List of Figures</b>		
Figure-1	Volume of Short-term Transactions of Electricity	14
Figure-2	Volume of Various Kinds of Electricity Transactions in Total Electricity Generation	14
Figure-3	Volume of Short-term Transactions of Electricity (Day-wise)	15
Figure-4	Percentage Share of Electricity Transacted by Trading Licensees	16
Figure-5	Price of Short-term Transactions of Electricity	18
Figure-6	Price of Short-term Transactions of Electricity (Day-wise)	18
Figure-7	Bilateral Contracts Executed by Traders in May, 2015	32
Figure-8	Forward Curve based on Prices of Bilateral Contracts	32

## Abbreviations

Abbreviation	Expanded Version
ACBIL	ACB ( India) Limited
ACP	Area Clearing Price
ACV	Area Clearing Volume
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
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
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.
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
LANCO_AMK	Lanco Amarkantak Power Private Limited
LANCO_KONDAPALLY	Lanco Kondapally Power Private Limited
MAITHON	Maithon Power Limited
MALANA	Malana Hydroelectric Plant
MEENAKSHI	Meenakshi Energy Private Limited
MP	Madhya Pradesh

MUS	Million Units
NEEPCO STATIONS	North Eastern Electric Power Corporation Limited. Stations
NHPC STATIONS	National Hydro Electric Power Corporation Ltd. Stations
NJPC	Nathpa Jhakri Hydroelectric Power Station
NLDC	National Load Despatch Centre
NSPCL	NTPC - SAIL Power Company Private Limited
ONGC PALATANA	Oil and Natural Gas Corporation, Palatana
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
SHREE CEMENT	Shree Cement Limited
SIMHAPURI	Simhapuri Energy Private Limited
STERLITE	Sterlite Energy Limited
TEESTA HEP	Teesta Hydro electric power project
THERMAL POWERTECH	Thermal Powertech Corporation India Limited
UT	Union Territory
VANDANA VIDYUT	Vandana Vidyut Limited

## **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 analysis of the report for the month of April, 2015 is as under:

### **I: Volume of Short-term Transactions of Electricity**

During the month of April 2015, total electricity generation excluding generation from renewable and captive power plants in India was 86160.54 MUs (Table-1).

Of the total electricity generation, 8174.51 MUs (9.49%) were transacted through short-term, comprising of 3929.86 MUs (4.56 %) through bilateral (through traders and term-ahead contracts on power exchanges and directly between distribution companies), followed by 2493.16 MUs (2.89%) through day ahead collective transactions on power exchanges (IEX and PXIL) and 1751.49 MUs (2.03%) through DSM (Table-1 & Figure-2).

Of the total short-term transactions, bilateral constitutes 48.07% (28.35% through traders and term-ahead contracts on power exchanges and 19.73 % directly between distribution companies) followed by 30.50 % through day ahead collective transactions on power exchanges and 21.43 % 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 trading licensees is provided in Table-2 & Figure-4. The trading licensees undertake electricity transactions through bilateral and power exchanges. The volume of electricity transacted by the trading licensees includes bilateral transactions and the transactions undertaken through power exchanges. There were 47 trading licensees as on 30.04.2015, of which only 22 were engaged in trading during April, 2015. Top 5 trading licensees had a share of 67.32% in the total volume traded by all the licensees.

Herfindahl-Hirschman Index (HHI) has been used for measuring the competition among the trading licensees. Increase in the HHI generally indicates a decrease in competition and an increase of market concentration, and vice versa. The HHI below 0.15 indicates non-concentration, HHI between 0.15 to 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 0.1506 for the month of April 2015, which indicates moderate concentration of market power (Table-2).

The volume of electricity transacted through IEX and PXIL in the day ahead market was 2462.47 MUs and 30.69 MUs respectively. The volume of total buy bids and sale bids was 2878.03 MUs and 4213.26 MUs respectively in IEX and while the same was 50.15 MUs and 84.97 MUs respectively in PXIL. The gap between the volume of buy bids and sale bids placed through power exchanges shows that there was lesser demand in both IEX (0.68times) and PXIL (0.59 times) when compared with the supply offered through these exchanges.

The volume of electricity transacted through IEX and PXIL in the term-ahead market was 19.89 MUs and 4.10 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 `1.75/kWh, `7.99/kWh and `4.20/kWh respectively (Table-3). 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 `4.29/kWh, `3.05//kWh and `3.64/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 separately. The minimum, maximum and weighted average prices were `0.99/kWh, `20.00/kWh and `2.67/kWh respectively in IEX and `1.03/kWh, `4.51/kWh and `2.53/kWh respectively in PXIL (Table-5).

The prices of electricity transacted through IEX and PXIL in the term-ahead market were `3.72/kWh and `2.43/kWh respectively (Table-6 and Table-7).

**(iii) Price of electricity transacted through DSM:** The average deviation price was `1.81/kWh for all India grid. The minimum and maximum deviation prices were `0.00/kWh and `8.24/kWh respectively in the all India grid (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 Entity<sup>1</sup>-Wise)**

Of the total bilateral transactions, top 5 regional entities sold 43.47% of the volume, and these were Sterlite Energy Limited, Karnataka, Gujarat, GMR Kamalanga Energy Limited and Coastal Energen Private Limited. Top 5 regional entities purchased 57.82% of the volume, and these were Telangana, West Bengal, Andhra Pradesh, Maharashtra and Chhattisgarh. (Table-9 & 10).

Of the total Power Exchange transactions, top 5 regional entities sold 39.44% of the volume, and these were Jindal India Thermal Power Limited, Himachal Pradesh, Karnataka, Madhya Pradesh and Donga Mahua Captive Power Plant. Top 5 regional entities purchased

---

<sup>1</sup> 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.



57.95% of the volume, and these were Rajasthan, Essar Steel Limited, Gujarat, Punjab and Uttarakhand. (Table-11 & 12).

Of the total DSM transactions, top 5 regional entities underdrew 38.70% of the volume, and these were Uttar Pradesh, Maharashtra, Tamil Nadu, Madhya Pradesh and Haryana. Top 5 regional entities overdrew 26.62% of the volume, and these were Bihar, Gujarat, Karnataka, Maharashtra and Punjab. (Table-13 & 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 Sterlite Energy Ltd., Madhya Pradesh, Jindal India Thermal Private Limited, GMR Kamalanga Energy Limited and Karnataka. Top 5 electricity purchasing regional entities were Telangana, West Bengal, Andhra Pradesh, Bihar and Maharashtra.

#### **IV: Congestion<sup>2</sup> 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”<sup>3</sup>.

---

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

<sup>3</sup> “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.

In the month of April 2015, congestion occurred in both the power exchanges. 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.

During the month, the volume of electricity that could not be cleared in the power exchanges due to congestion was 3.28% and 6.16% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 95.87% in IEX and 9.34% in PXIL (Table-16).

#### **V: Analysis of Bilateral Contracts executed by Traders in May 2015<sup>4</sup>**

**(i) Duration of bilateral contracts:** During May 2015, a total of 75 bilateral contracts (excluding banking/swap contracts) have been executed by traders for the volume of 2115.57 MUs. Figure-7 shows the percentage of contracts categorized according to the period of power supply. It can be observed from the figure that 56% of the contracts were executed for a duration of up to one week, followed by 44% of the contracts executed for a duration of more than a week and upto one month.

During the month, 26 banking/swapping bilateral contracts were also executed for the volume of 1365.10 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. For constructing the forward curve, the price of each contract is taken to be price for each day of that contract's period. On the basis of these prices, 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 May, 2015 to May, 2016 based on bilateral contracts<sup>5</sup>executed till May, 2015. The forward

---

<sup>4</sup>*Monthly OTC(Electricity Traders) report' based on analysis of weekly reports has been discontinued and Analysis of Bilateral Contracts is being presented in this report hereinafter.*

<sup>5</sup>*Excluding Banking/Swapping contracts*

curve drawn for April, 2015 has also been depicted for the period May, 2015 onwards for comparison purposes. It is observed that the forward prices from June to July, 2015 were lower for the contracts executed in May, 2015 compared to the contracts executed in April, 2015. However, the forward prices remain same for the period beyond July, 2015.

## **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 session was held on power exchanges in March, 2011.

The details of REC transactions for the month of April, 2015 are shown in Table-20. The market clearing volume of solar RECs transacted on IEX and PXIL were 6721 and 1801 respectively and the market clearing price of these RECs was ₹3500/MWh on both the power exchanges. Market clearing volume of non-solar RECs transacted on IEX and PXIL were 38481 and 17131 respectively and the market clearing price of these RECs was ₹1500/MWh on both the power exchanges.

The gap between the volume of buy and sell bids of RECs placed through power exchanges show that there was less demand for solar RECs and non-solar RECs. For Solar RECs, the ratio of buy and sell bids was 0.01 and 0.002 for IEX and PXIL respectively. For non-solar RECs, the ratio of buy and sell bids was 0.01 for IEX and 0.003 for PXIL.

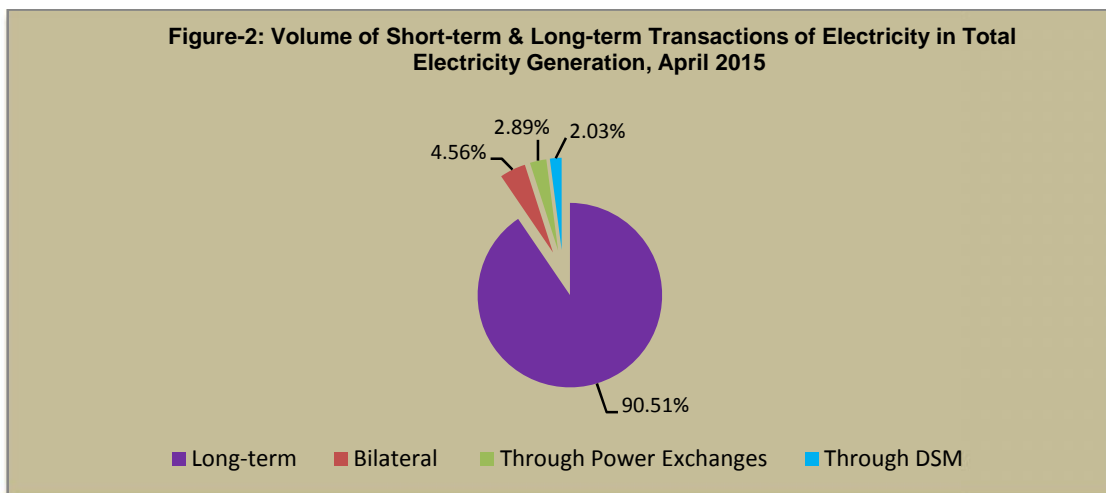
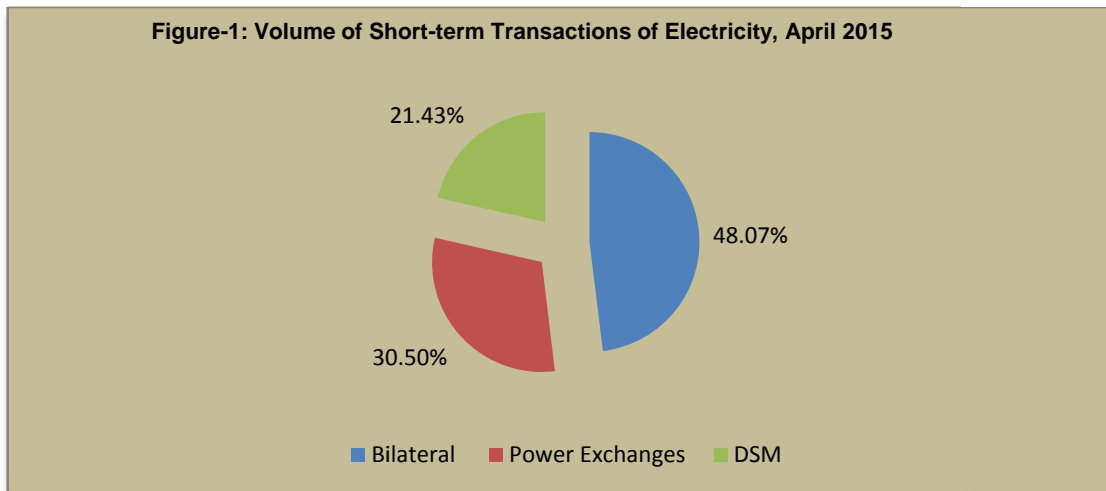
## VII: Inferences:

- The percentage of short-term transactions of electricity to total electricity generation was 9.49 %.
- Of the total short-term transactions of electricity, 48.07% was transacted through bilateral (through traders and term ahead contracts on power exchanges and directly by distribution companies), followed by 30.50% through power exchanges and 21.43% through DSM.
- Top 5 trading licensees had a share of 67.32% 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 0.1506, indicating moderate concentration of market power.
- The weighted average price of electricity transacted through trading licensees was `4.20/kWh. The weighted average prices of electricity transacted through IEX and PXIL were `2.67/kWh and `2.53/kWh respectively.
- The average price of electricity transacted through DSM was `1.81/kWh
- The gap between the volume of buy bids and sale bids placed through power exchanges indicates that there was less demand in both IEX (1:0.68) and PXIL (1:0.59) when compared with the supply offered through these exchanges.
- Top 5 electricity selling regional entities were Sterlite Energy Ltd., Madhya Pradesh, Jindal India Thermal Private Limited, GMR Kamalanga Energy Ltd and Karnataka. Top 5 electricity purchasing regional entities were Telangana, West Bengal, Andhra Pradesh, Bihar and Maharashtra.
- The volume of electricity that could not be cleared in the power exchanges due to congestion was 3.28% and 6.16% of the unconstrained cleared volume in IEX and PXIL, respectively. In terms of time, congestion occurred was 95.87% in IEX and 9.34% in PXIL.

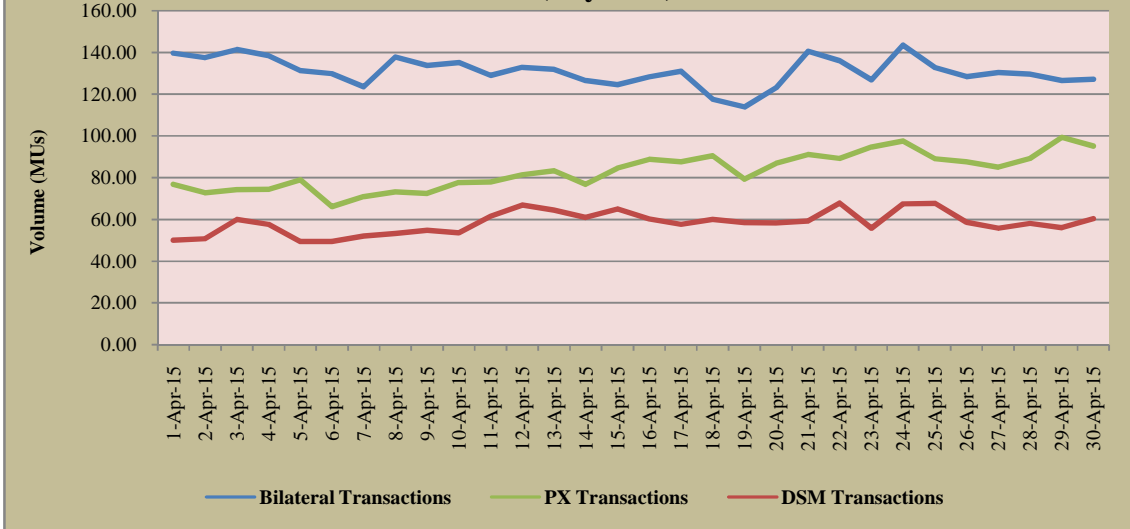
- In May 2015, 56% of the contracts were executed for a duration of up to one week, and 44% of the contracts were executed for a duration of more than a week and upto one month.
- The forward prices from June to July, 2015 were lower for the contracts executed in May, 2015 when compared to the contracts executed in April, 2015. However, the forward prices remain same for the period beyond July, 2015.
- The market clearing volume of Solar RECs transacted on IEX and PXIL were 6721 and 1801 respectively and the market clearing price of these RECs was `3500/MWh on both the power exchanges. Market clearing volume of Non-Solar RECs transacted on IEX and PXIL were 38481 and 17131 respectively and the market clearing price of these RECs was `1500/MWh on both the power exchanges.

Table-1: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (ALL INDIA), APRIL 2015				
Sr. No.	Short-term transactions	Volume (MUs)	% of Volume of short-term transactions	% of Total Generation
1	Bilateral	3929.86	48.07	4.56
	(i) Through Traders and PXs	2317.39	28.35	2.69
	(ii) Direct	1612.47	19.73	1.87
2	Through Power Exchanges	2493.16	30.50	2.89
	(i) IEX	2462.47	30.12	2.86
	(ii) PXIL	30.69	0.38	0.04
3	Through DSM	1751.49	21.43	2.03
	<b>Total</b>	<b>8174.51</b>	<b>100.00</b>	<b>9.49</b>
	<b>Total Generation</b>	<b>86160.54</b>	—	—

Source: NLDC



**Figure-3: Volume of Short-term Transactions of Electricity, April 2015 (Day-wise)**



<b>Table-2: PERCENTAGE SHARE OF ELECTRICITY TRANSACTED BY TRADING LICENSEES, APRIL 2015</b>			
<b>Sr. No</b>	<b>Name of the Trading Licensee</b>	<b>% Share in total Volume transacted by Trading Licensees</b>	<b>Herfindahl-Hirschman Index</b>
1	PTC India Ltd.	31.52	0.0994
2	Tata Power Trading Company (P) Ltd.	15.68	0.0246
3	Mittal Processors (P) Ltd.	6.96	0.0048
4	Adani Enterprises Ltd.	6.67	0.0045
5	JSW Power Trading Company Ltd	6.48	0.0042
6	Shree Cement Ltd.	5.57	0.0031
7	Knowledge Infrastructure Systems (P) Ltd	5.49	0.0030
8	NTPC Vidyut Vyapar Nigam Ltd.	5.45	0.0030
9	GMR Energy Trading Ltd.	4.40	0.0019
10	Manikaran Power Ltd.	2.92	0.0009
11	Jaiprakash Associates Ltd.	2.28	0.0005
12	Instinct Infra & Power Ltd.	1.88	0.0004
13	National Energy Trading & Services Ltd.	1.65	0.0003
14	RPG Power Trading Company Ltd.	0.65	0.0000
15	SN Power Markets Pvt. Ltd.	0.61	0.0000
16	Arunachal Pradesh Power Corporation (P) ltd	0.47	0.0000
17	Reliance Energy Trading (P) Ltd	0.45	0.0000
18	Indrajit Power Technology (P) Ltd.	0.30	0.0000
19	My Home Power Private Ltd.	0.28	0.0000
20	Customized Energy Solutions India (P) Ltd.	0.20	0.0000
21	Essar Electric Power Development Corp. Ltd.	0.07	0.0000
22	Vedprakash Power Private Ltd.	0.0004	0.0000
<b>TOTAL</b>		<b>100.00</b>	<b>0.1506</b>
<b>Top 5 trading licensees</b>		<b>67.32</b>	
<i>Note 1: Volume of electricity transacted by the trading licensees includes bilateral transactions (inter-state &amp; 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>			

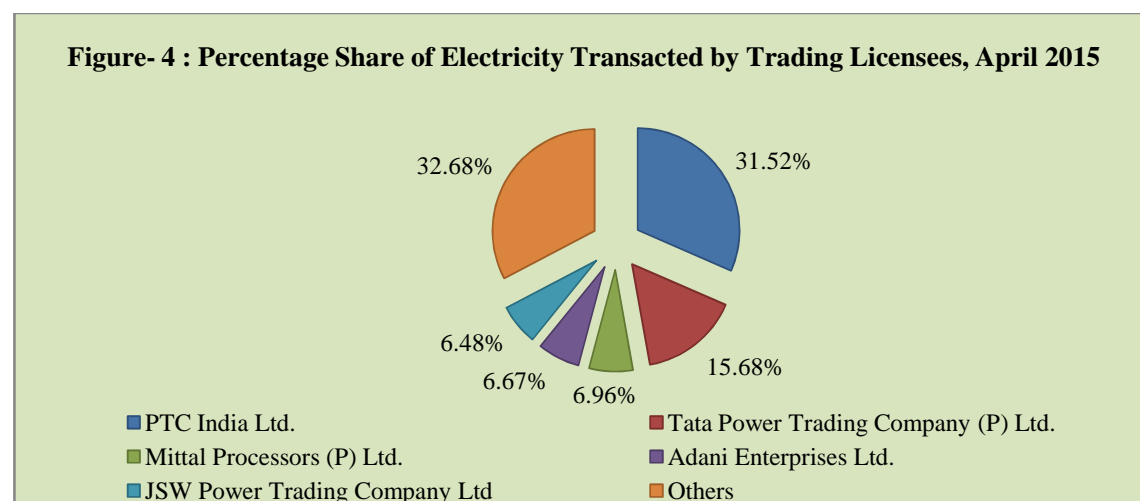




Table-3: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS, APRIL 2015		
Sr.No		Sale Price of Traders (₹/kWh)
1	Minimum	1.75
2	Maximum	7.99
3	Weighted Average	4.20

Source: Information submitted by trading licensees

Table-4: PRICE OF ELECTRICITY TRANSACTED THROUGH TRADERS (TIME-WISE), APRIL 2015		
Sr.No	Period of Trade	Sale Price of Traders (₹/kWh)
1	RTC	4.29
2	PEAK	3.05
3	OFF PEAK	3.64

Source: Information submitted by trading licensees

Table-5: PRICE OF ELECTRICITY TRANSACTED THROUGH POWER EXCHANGES, APRIL 2015			
Sr.No	ACP	Price in IEX (₹/kWh)	Price in PXIL (₹/kWh)
1	Minimum	0.99	1.03
2	Maximum	20.00	4.51
3	Weighted Average	2.67	2.53

Source: Information submitted by IEX and PXIL

Table-6: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF IEX, APRIL 2015			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	19.69	3.73
2	Day Ahead Contingency Contracts	0.20	3.16
	<b>Total</b>	<b>19.89</b>	<b>3.72</b>

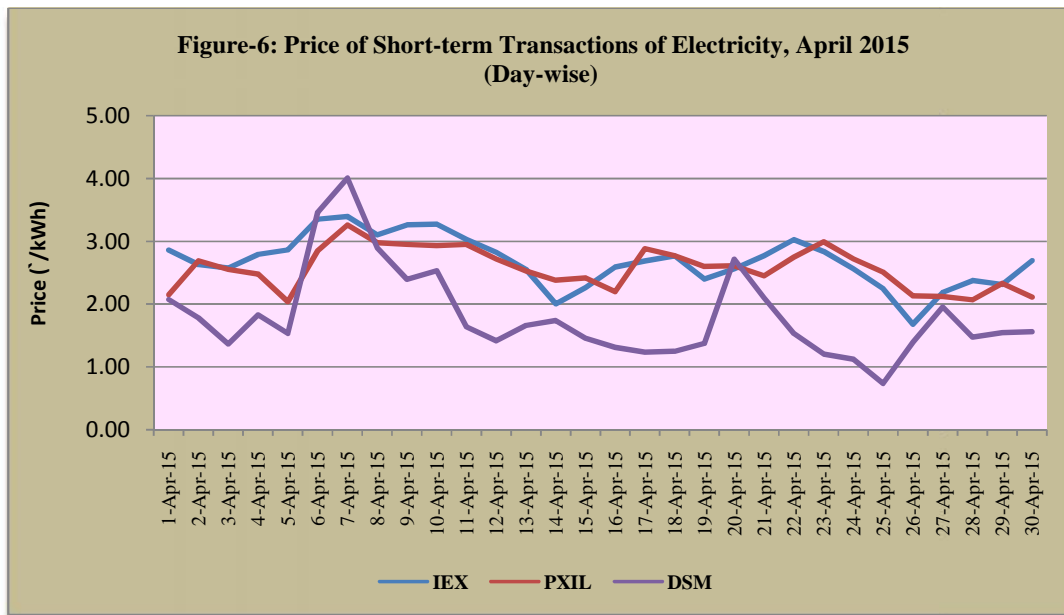
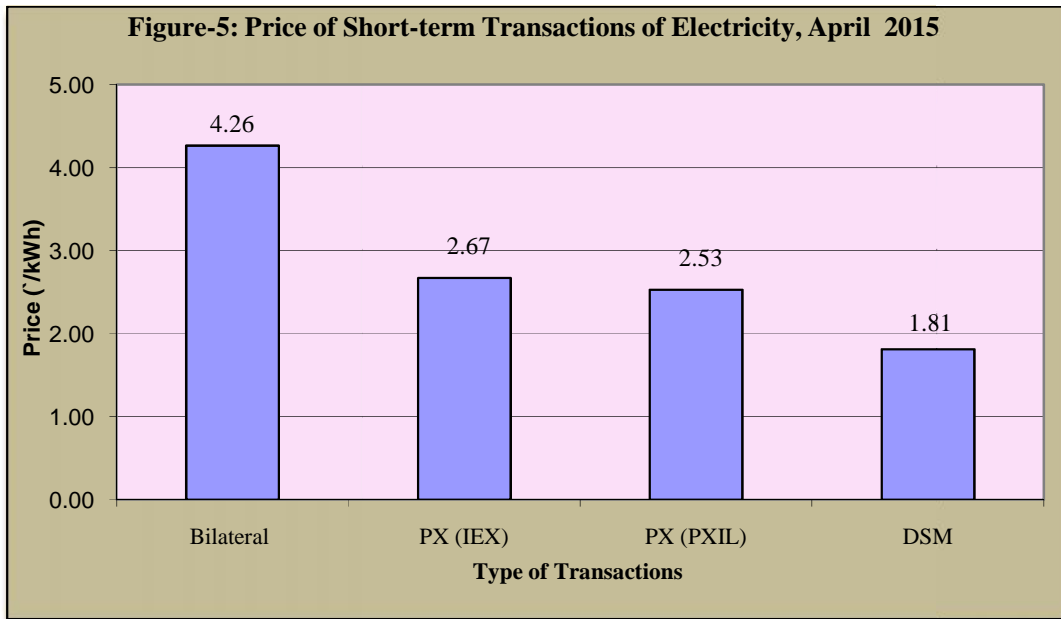
Source: IEX

Table-7: VOLUME AND PRICE OF ELECTRICITY IN TERM AHEAD MARKET OF PXIL, APRIL 2015			
Sr.No	Term ahead contracts	Actual Scheduled Volume (MUs)	Weighted Average Price (₹/kWh)
1	Intra-Day Contracts	4.10	2.43
	<b>Total</b>	<b>4.10</b>	<b>2.43</b>

Source: PXIL

Table-8: PRICE OF ELECTRICITY TRANSACTED THROUGH DSM, APRIL 2015		
Sr.No		Price in All India Grid (₹/kWh)
1	Minimum	0.00
2	Maximum	8.24
3	Average	1.81

Source: NLDC



<b>Table-9: VOLUME OF ELECTRICITY SOLD THROUGH BILATERAL, APRIL 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Sale (MUs)</b>	<b>% of Volume</b>
STERLITE	393.00	10.10
KARNATAKA	347.81	8.94
GUJARAT	342.69	8.81
GMR KAMALANGA	310.43	7.98
COASTGEN	297.49	7.65
SIMHAPURI	259.90	6.68
MP	257.60	6.62
RAJASTHAN	234.85	6.04
SHREE CEMENT	148.41	3.81
THERMAL POWERTECH	133.36	3.43
JINDAL STAGE-II	131.87	3.39
DELHI	129.13	3.32
ODISHA	124.21	3.19
MEENAKSHI	120.58	3.10
PUNJAB	109.80	2.82
DVC	91.26	2.35
ADHUNIK POWER LTD.	86.03	2.21
JINDAL POWER	76.82	1.97
J & K	69.85	1.80
MAITHON POWER LTD	64.64	1.66
HIMACHAL PRADESH	56.73	1.46
JITPL	38.87	1.00
AD HYDRO	16.86	0.43
DAGACHU	12.59	0.32
TELANGANA	9.61	0.25
ACBIL	8.46	0.22
CHHATTISGARH	7.87	0.20
KARCHAM WANGTOO	5.55	0.14
DCPP	1.97	0.05
HARYANA	0.85	0.02
TRIPURA	0.84	0.02
UTTAR PRADESH	0.45	0.01
WEST BENGAL	0.30	0.01
MAHARASHTRA	0.13	0.00
<b>Total</b>	<b>3890.79</b>	<b>100.00</b>
<b>Volume of sale by top 5 States</b>	<b>1691.43</b>	<b>43.47</b>

**Table-10: VOLUME OF ELECTRICITY PURCHASED THROUGH BILATERAL,  
APRIL 2015**

<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Purchase (MUs)</b>	<b>% of Volume</b>
TELANGANA	661.65	17.56
WEST BENGAL	500.41	13.28
ANDHRA PRADESH	354.85	9.42
MAHARASHTRA	337.10	8.95
CHHATTISGARH	324.50	8.61
TAMIL NADU	297.72	7.90
BIHAR	245.95	6.53
HARYANA	212.84	5.65
UTTAR PRADESH	186.97	4.96
ODISHA	182.88	4.85
JHARKHAND	150.41	3.99
KERALA	72.28	1.92
HIMACHAL PRADESH	72.00	1.91
GUJARAT	33.44	0.89
GOA	30.41	0.81
MANIPUR	22.30	0.59
UTTARAKHAND	18.00	0.48
MEGHALAYA	14.79	0.39
KARNATAKA	14.66	0.39
DELHI	13.45	0.36
NAGALAND	10.80	0.29
ESSAR STEEL	5.91	0.16
PUNJAB	2.35	0.06
GMR CHHATTISGARH	1.46	0.04
RAJASTHAN	0.90	0.02
<b>Total</b>	<b>3768.02</b>	<b>100.00</b>
<b>Volume of Purchase by top 5 States</b>	<b>2178.52</b>	<b>57.82%</b>

<b>Table-11: VOLUME OF ELECTRICITY SALE THROUGH POWER EXCHANGES, April 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Sale (MUs)</b>	<b>% of Volume</b>
JITPL	311.00	12.47
HIMACHAL PRADESH	241.75	9.70
KARNATAKA	154.89	6.21
MP	145.50	5.84
DCPP	130.06	5.22
NHPC STATIONS	125.96	5.05
KARCHAM WANGTOO	114.56	4.60
HARYANA	107.55	4.31
KORBA WEST POWER	103.79	4.16
RAJASTHAN	103.11	4.14
GUJARAT	85.04	3.41
ODISHA	54.62	2.19
TELANGANA	50.30	2.02
ACBIL	48.55	1.95
CHHATTISGARH	48.44	1.94
TRIPURA	45.87	1.84
STERLITE	45.26	1.82
JAYPEE NIGRIE	44.29	1.78
DELHI	42.19	1.69
SIMHAPURI	36.33	1.46
GMR KAMALANGA	34.61	1.39
SHREE CEMENT	32.07	1.29
MAHARASHTRA	29.28	1.17
LANCO BUDHIL	25.70	1.03
WEST BENGAL	24.45	0.98
JINDAL STAGE-II	24.09	0.97
CHUZACHEN HEP	22.48	0.90
ANDHRA PRADESH	22.06	0.88
J & K	21.89	0.88
DVC	21.74	0.87
AD HYDRO	20.92	0.84
KERALA	20.50	0.82
ADHUNIK POWER LTD	19.70	0.79
MAITHON POWER LTD	19.23	0.77
KSK MAHANADI	18.55	0.74
TEESTA HEP	18.48	0.74
SIKKIM	17.73	0.71
MEENAKSHI	9.02	0.36
THERMAL POWERTECH	8.95	0.36
MANIPUR	7.64	0.31
NJPC	7.58	0.30
GOA	6.21	0.25
CHANDIGARH	3.27	0.13
RANGIT HEP	3.08	0.12
JINDAL POWER	2.70	0.11
MIZORAM	2.63	0.11
DB POWER	2.21	0.09
MALANA	2.13	0.09
ASSAM	1.30	0.05
UTTARAKHAND	1.19	0.05
NEEPCO STATIONS	0.89	0.04
EMCO	0.75	0.03
ONGC PALATANA	0.55	0.02
MEGHALAYA	0.46	0.02
DGEN MEGA POWER	0.04	0.00
<b>Total</b>	<b>2493.16</b>	<b>100.00</b>
Volume of sale by top 5 Sellers	<b>983.20</b>	<b>39.44</b>

<b>Table-12: VOLUME OF ELECTRICITY PURCHASED THROUGH POWER EXCHANGES, APRIL 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Purchase (MUs)</b>	<b>% of Volume</b>
RAJASTHAN	473.57	18.99
ESSAR STEEL	287.68	11.54
GUJARAT	242.12	9.71
PUNJAB	236.92	9.50
UTTARAKHAND	204.60	8.21
TELANGANA	138.87	5.57
KARNATAKA	111.36	4.47
HARYANA	106.76	4.28
ANDHRA PRADESH	93.71	3.76
DELHI	87.72	3.52
MP	85.18	3.42
TAMIL NADU	74.38	2.98
MAHARASHTRA	61.92	2.48
ASSAM	51.88	2.08
WEST BENGAL	50.33	2.02
BIHAR	42.14	1.69
DAMAN AND DIU	32.00	1.28
MEGHALAYA	30.19	1.21
HIMACHAL PRADESH	15.00	0.60
CHHATTISGARH	13.56	0.54
GOA	11.55	0.46
ODISHA	8.64	0.35
J & K	8.55	0.34
UTTAR PRADESH	7.27	0.29
ARUNACHAL PRADESH	7.26	0.29
KERALA	3.02	0.12
CHANDIGARH	2.90	0.12
MANIPUR	2.87	0.12
NAGALAND	1.20	0.05
MIZORAM	0.02	0.00
<b>Total</b>	<b>2493.16</b>	<b>100.00</b>
<b>Volume of purchase by top 5 Buyers</b>	<b>1444.88</b>	<b>57.95</b>

<b>Table-13: VOLUME OF ELECTRICITY EXPORTS THROUGH DSM, APRIL 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Exports (MUs)</b>	<b>% of Volume</b>
UTTAR PRADESH	143.85	11.00
MAHARASHTRA	123.64	9.46
TAMIL NADU	99.89	7.64
MP	69.96	5.35
HARYANA	68.65	5.25
GUJARAT	65.47	5.01
WEST BENGAL	58.67	4.49
NHPC STATIONS	49.55	3.79
J & K	48.32	3.70
BIHAR	48.22	3.69
PUNJAB	47.71	3.65
RAJASTHAN	44.8	3.43
JHARKHAND	37.97	2.90
DVC	35.33	2.70
CHHATTISGARH	34.59	2.65
ANDHRA PRADESH	33.05	2.53
CGPL	31.28	2.39
HIMACHAL PRADESH	28.7	2.20
TELANGANA	27.73	2.12
ODISHA	25.96	1.99
DELHI	20.78	1.59
ASSAM	15.36	1.17
MANIPUR	12.37	0.95
SIKKIM	11.83	0.90
KARNATAKA	9.75	0.75
UTTARAKHAND	9.71	0.74
DADRA & NAGAR HAVELI	9.15	0.70
NJPC	7.72	0.59
MAITHON POWER LTD	7.38	0.56
GOA	6.78	0.52
JINDAL POWER	6.5	0.50
STERLITE	5.6	0.43
TRIPURA	5.58	0.43
MEGHALAYA	5.45	0.42
KERALA	5.19	0.40
KARCHAM WANGTOO	4.72	0.36
DAMAN AND DIU	4.57	0.35
PONDICHERRY	4.46	0.34
DAGACHU	4.14	0.32
NSPCL	3.93	0.30
NEEPCO STATIONS	3.39	0.26
DCPP	2.75	0.21
AD HYDRO	2.34	0.18
SIMHAPURI	2.33	0.18
MIZORAM	2.09	0.16
ARUNACHAL PRADESH	2.03	0.16
CHANDIGARH	1.97	0.15
NAGALAND	1.9	0.15
SHREE CEMENT	1.24	0.09
LANKO_AMK	1.15	0.09
BALCO	1.01	0.08
ACBIL	0.86	0.07
RGPPL(DABHOL)	0.024	0.00
<b>Total</b>	<b>1307.37</b>	<b>100</b>
<b>Volume of Export by top 5 States</b>	<b>505.99</b>	<b>38.70</b>

<b>Table-14: VOLUME OF ELECTRICITY IMPORTS THROUGH DSM, APRIL 2015</b>		
<b>Name of the State/UT/Other Regional Entity</b>	<b>Volume of Imports (MUs)</b>	<b>% of Volume</b>
BIHAR	72.98	5.84
GUJARAT	67.37	5.39
KARNATAKA	65.12	5.21
MAHARASHTRA	64.17	5.13
PUNJAB	63.06	5.05
HARYANA	62.56	5.01
UTTAR PRADESH	62.09	4.97
RAJASTHAN	50.84	4.07
UTTARAKHAND	50.66	4.05
KERALA	50.41	4.03
CHHATTISGARH	49.31	3.95
ODISHA	47.77	3.82
TELANGANA	46.16	3.69
WEST BENGAL	41.48	3.32
STERLITE	39.97	3.20
ANDHRA PRADESH	35.94	2.88
DELHI	35.20	2.82
MP	30.70	2.46
GOA	29.63	2.37
ASSAM	26.85	2.15
CGPL	24.58	1.97
J & K	21.18	1.69
DVC	19.93	1.59
HIMACHAL PRADESH	18.94	1.52
DAGACHU	15.96	1.28
ARUNACHAL PRADESH	14.11	1.13
CHANDIGARH	11.02	0.88
TRIPURA	10.84	0.87
ACBIL	8.64	0.69
NAGALAND	7.69	0.62
JHARKHAND	7.69	0.62
JINDAL POWER	7.65	0.61
RGPPL(DABHOL)	7.29	0.58
KARCHAM WANGTOO	6.73	0.54
BALCO	6.30	0.50
DADRA & NAGAR HAVELI	6.07	0.49
MIZORAM	6.02	0.48
TAMIL NADU	5.96	0.48
NHPC STATIONS	5.87	0.47
DAMAN AND DIU	5.65	0.45
DCPP	5.51	0.44
MEGHALAYA	5.42	0.43
PONDICHERRY	4.54	0.36
MAITHON POWER LTD	4.32	0.35
NSPCL	3.47	0.28
SHREE CEMENT	3.16	0.25
NJPC	2.86	0.23
AD HYDRO	2.85	0.23
SIMHAPURI	2.24	0.18
MANIPUR	2.00	0.16
NEEPCO STATIONS	1.92	0.15
SIKKIM	0.61	0.05
LANKO_AMK	0.43	0.03
<b>Total</b>	<b>1249.71</b>	<b>100.00</b>
<b>Volume of Import by top 5 States</b>	<b>332.70</b>	<b>26.62</b>



**Table-15: TOTAL VOLUME OF NET SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY-WISE),APRIL 2015**

Sr. No.	Name of the State/UT/Other Regional Entity	Total volume of net short-term transactions of electricity*
1	TELANGANA	759.04
2	WEST BENGAL	508.80
3	ANDHRA PRADESH	429.39
4	BIHAR	312.86
5	MAHARASHTRA	310.15
6	CHHATTISGARH	296.47
7	ESSAR STEEL	293.59
8	TAMIL NADU	278.17
9	UTTARAKHAND	262.36
10	HARYANA	205.11
11	PUNJAB	144.82
12	RAJASTHAN	142.55
13	JHARKHAND	120.13
14	UTTAR PRADESH	112.03
15	KERALA	100.01
16	ASSAM	62.06
17	GOA	58.61
18	MEGHALAYA	44.49
19	ODISHA	34.50
20	DAMAN AND DIU	33.07
21	ARUNACHAL PRADESH	19.33
22	NAGALAND	17.79
23	CHANDIGARH	8.68
24	RGPPL(DABHOL)	7.27
25	MANIPUR	7.16
26	BALCO	5.29
27	GMR CHHATTISGARH	1.46
28	MIZORAM	1.31
29	PONDICHERRY	0.08
30	DGEN MEGA POWER	-0.04
31	NSPCL	-0.46
32	ONGC PALATANA	-0.55
33	LANKO_AMK	-0.72
34	EMCO	-0.75
35	DAGACHU	-0.76
36	MALANA	-2.13
37	DB POWER	-2.21
38	NEEPCO STATIONS	-2.37
39	RANGIT HEP	-3.08
40	DADRA & NAGAR HAVELI	-3.08
41	CGPL	-6.70
42	NJPC	-12.44
43	TEESTA HEP	-18.48
44	KSK MAHANADI	-18.55
45	CHUZACHEN HEP	-22.48
46	LANCO BUDHIL	-25.70
47	SIKKIM	-28.95
48	AD HYDRO	-37.27
49	TRIPURA	-41.45
50	JAYPEE NIGRIE	-44.29
51	ACBIL	-49.23
52	DELHI	-55.73
53	JINDAL POWER	-78.38
54	MAITHON POWER LTD	-86.94

55	KORBA WEST POWER	-103.79
56	ADHUNIK POWER LTD	-105.73
57	J & K	-110.34
58	KARCHAM WANGTOO	-118.10
59	DVC	-128.40
60	DCPP(DONGA MAHUA CAPTIVE POWER PLANT)	-129.28
61	MEENAKSHI	-129.60
62	THERMAL POWERTECH	-142.30
63	GUJARAT	-150.27
64	JINDAL STAGE-II	-155.95
65	NHPC STATIONS	-169.64
66	SHREE CEMENT	-178.56
67	HIMACHAL PRADESH	-221.24
68	SIMHAPURI	-296.32
69	COASTGEN	-297.49
70	KARNATAKA	-321.31
71	GMR KAMALANGA	-345.04
72	JITPL	-349.87
73	MP	-357.18
74	STERLITE	-403.88

*\* Total volume of net short-term transactions of electricity includes net of transactions of electricity through bilateral, power exchange and DSM  
(-) indicates sale and (+) indicates purchase*

<b>Table-16: DETAILS OF CONGESTION IN POWER EXCHANGES, APRIL 2015</b>			
	<b>Details of Congestion</b>	<b>IEX</b>	<b>PXIL</b>
A	Unconstrained Cleared Volume* (MUs)	2545.89	32.71
B	Actual Cleared Volume and hence scheduled (MUs)	2462.47	30.69
C	Volume of electricity that could not be cleared and hence not scheduled because of congestion (MUs) (A-B)	83.42	2.02
D	Volume of electricity that could not be cleared as % to Unconstrained Cleared Volume	3.28	6.16
E	Percentage of the time congestion occurred during the month (Number of hours congestion occurred/Total number of hours in the month)	95.87	9.34
F	Congestion occurrence (%) time block wise		
	0.00 - 6.00 hours	24.74	0.37
	6.00 - 12.00 hours	25.43	0.00
	12.00 - 18.00 hours	25.24	0.00
	18.00 - 24.00 hours	24.59	99.63
* This power would have been scheduled had there been no congestion. Source: IEX & PXIL & NLDC			

<b>Table-17: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY IN INDIA (MUs), APRIL 2015 (DAY-WISE)</b>						<b>Total Electricity Generation (MU) as given at CEA Website</b>
<b>Date</b>	<b>Bilateral</b>		<b>Power Exchange (Area Clearing Volume# of Day Ahead Market)</b>		<b>Deviation Settlement (Over Drawl+ Under Generation)</b>	
	<b>Through Traders and PXs**</b>	<b>Direct</b>	<b>IEX</b>	<b>PXI</b>		
1-Apr-15	85.25	54.45	75.69	1.21	49.92	2870.76
2-Apr-15	82.40	55.15	71.48	1.35	50.69	2865.17
3-Apr-15	85.12	56.22	73.01	1.27	59.89	2802.24
4-Apr-15	82.56	55.96	73.09	1.28	57.57	2807.59
5-Apr-15	79.43	51.85	78.01	1.01	49.39	2779.50
6-Apr-15	77.58	52.32	65.52	0.68	49.46	2884.56
7-Apr-15	74.78	48.71	70.03	0.99	52.01	2885.03
8-Apr-15	81.71	56.13	71.98	1.21	53.37	2884.86
9-Apr-15	81.06	52.78	71.91	0.58	54.74	2932.75
10-Apr-15	80.48	54.69	76.84	0.87	53.63	2957.04
11-Apr-15	73.16	55.85	77.47	0.55	61.57	2897.25
12-Apr-15	74.94	57.99	80.35	1.16	66.89	2664.32
13-Apr-15	72.80	59.07	82.20	1.10	64.52	2709.51
14-Apr-15	74.02	52.54	75.65	1.13	60.94	2709.51
15-Apr-15	73.63	50.96	83.48	1.12	64.99	2780.55
16-Apr-15	80.29	48.02	88.06	0.67	60.27	2819.58
17-Apr-15	82.60	48.51	87.17	0.47	57.63	2839.19
18-Apr-15	77.51	40.21	90.03	0.49	59.97	2846.73
19-Apr-15	76.07	37.85	78.24	1.12	58.53	2796.00
20-Apr-15	77.64	45.54	86.01	0.86	58.43	2927.15
21-Apr-15	81.77	58.75	90.14	1.00	59.26	3034.62
22-Apr-15	76.19	59.90	88.30	0.92	67.92	3032.74
23-Apr-15	72.53	54.35	93.82	0.87	55.72	2959.38
24-Apr-15	79.52	64.04	96.52	0.97	67.50	2978.60
25-Apr-15	70.52	62.20	87.68	1.37	67.76	2918.08
26-Apr-15	72.95	55.56	86.48	1.20	58.63	2800.44
27-Apr-15	75.43	55.05	83.80	1.17	55.74	2907.02
28-Apr-15	73.49	56.11	87.90	1.35	58.12	2909.09
29-Apr-15	69.54	57.01	97.90	1.36	56.05	2999.25
30-Apr-15	72.44	54.68	93.69	1.36	60.38	2962.03
<b>Total</b>	<b>2317.39</b>	<b>1612.47</b>	<b>2462.47</b>	<b>30.69</b>	<b>1751.49</b>	<b>86160.54</b>

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 (/kWh),APRIL 2015 (DAY-WISE)									
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		
							Mini-mum Price	Maxi-mum Price	Average Price**
1-Apr-15	1.85	20.00	2.86	1.32	2.69	2.15	0.00	6.16	2.08
2-Apr-15	1.50	20.00	2.63	2.09	3.30	2.69	0.00	3.45	1.78
3-Apr-15	1.77	20.00	2.58	1.97	3.20	2.55	0.00	6.36	1.37
4-Apr-15	2.00	20.00	2.79	2.01	3.31	2.48	0.00	5.74	1.83
5-Apr-15	1.90	5.65	2.86	1.12	4.01	2.04	0.00	4.91	1.53
6-Apr-15	2.28	7.00	3.35	2.11	4.01	2.85	0.00	8.24	3.47
7-Apr-15	2.27	18.00	3.40	2.44	4.00	3.26	0.00	8.03	4.01
8-Apr-15	2.27	19.00	3.11	2.40	3.90	2.98	0.00	8.24	2.90
9-Apr-15	2.30	16.00	3.26	2.45	4.01	2.95	0.00	8.24	2.39
10-Apr-15	2.30	19.00	3.27	2.30	3.90	2.93	0.00	5.95	2.54
11-Apr-15	2.17	18.00	3.03	2.30	4.02	2.95	0.00	6.16	1.64
12-Apr-15	1.50	18.00	2.83	2.10	3.38	2.72	0.00	5.11	1.42
13-Apr-15	1.00	19.00	2.55	2.12	3.38	2.53	0.00	5.11	1.66
14-Apr-15	1.00	17.00	2.01	1.34	2.90	2.38	0.00	3.45	1.74
15-Apr-15	1.00	18.00	2.27	1.35	2.91	2.42	0.00	5.74	1.46
16-Apr-15	1.70	19.50	2.59	1.44	2.62	2.20	0.00	5.32	1.31
17-Apr-15	1.97	19.00	2.69	2.00	3.90	2.88	0.00	3.45	1.24
18-Apr-15	1.77	18.65	2.77	2.07	3.90	2.77	0.00	3.45	1.25
19-Apr-15	1.00	16.50	2.40	2.09	3.39	2.60	0.00	3.45	1.38
20-Apr-15	1.20	18.00	2.56	1.86	3.84	2.61	0.00	8.24	2.72
21-Apr-15	1.74	16.50	2.77	1.44	3.81	2.45	0.00	5.95	2.10
22-Apr-15	2.00	16.50	3.03	1.86	4.51	2.75	0.00	5.32	1.53
23-Apr-15	2.05	16.50	2.84	2.10	4.25	2.99	0.00	3.45	1.21
24-Apr-15	1.37	16.50	2.56	2.08	3.30	2.72	0.00	3.24	1.13
25-Apr-15	1.00	16.50	2.25	1.46	3.14	2.51	0.00	3.45	0.74
26-Apr-15	0.99	4.50	1.68	1.09	3.16	2.13	0.00	5.32	1.40
27-Apr-15	1.00	20.00	2.19	1.03	3.10	2.12	0.00	6.36	1.95
28-Apr-15	1.37	6.10	2.38	1.19	2.89	2.07	0.00	4.91	1.48
29-Apr-15	1.00	6.51	2.31	1.49	2.95	2.33	0.00	3.45	1.55
30-Apr-15	1.00	6.51	2.69	1.09	2.92	2.11	0.00	5.32	1.56
	<b>0.99#</b>	<b>20.00#</b>	<b>2.67</b>	<b>1.03#</b>	<b>4.51#</b>	<b>2.53</b>	<b>0.00#</b>	<b>8.24#</b>	<b>1.81</b>

Source: Data on price of PX transactions from IEX and PXIL and data on Deviation 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 of Deviation price of 96 time blocks of 15 minutes each in a day.  
# Maximum/Minimum in the month

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE) (MUs),  
APRIL2015**

Name of the State/UT/Other Regional Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Export (Under Draw)	Import (Over)	Net**	
PUNJAB	109.80	2.35	-107.45	0.00	236.92	236.92	47.71	63.06	15.36	144.82
HARYANA	0.85	212.84	211.99	107.55	106.76	-0.79	68.65	62.56	-6.09	205.11
RAJASTHAN	234.85	0.90	-233.95	103.11	473.57	370.46	44.80	50.84	6.04	142.55
DELHI	129.13	13.45	-115.68	42.19	87.72	45.53	20.78	35.20	14.42	-55.73
UTTAR PRADESH	0.45	186.97	186.52	0.00	7.27	7.27	143.85	62.09	-81.76	112.03
UTTARAKHAND	0.00	18.00	18.00	1.19	204.60	203.41	9.71	50.66	40.95	262.36
HIMACHAL PRADESH	56.73	72.00	15.27	241.75	15.00	-226.75	28.70	18.94	-9.76	-221.24
J & K	69.85	0.00	-69.85	21.89	8.55	-13.35	48.32	21.18	-27.14	-110.34
CHANDIGARH	0.00	0.00	0.00	3.27	2.90	-0.37	1.97	11.02	9.05	8.68
MP	257.60	0.00	-257.60	145.50	85.18	-60.31	69.96	30.70	-39.27	-357.18
MAHARASHTRA	0.13	337.10	336.97	29.28	61.92	32.64	123.64	64.17	-59.47	310.15
GUJARAT	342.69	33.44	-309.25	85.04	242.12	157.08	65.47	67.37	1.90	-150.27
CHHATTISGARH	7.87	324.50	316.63	48.44	13.56	-34.88	34.59	49.31	14.72	296.47
DAMAN AND DIU	0.00	0.00	0.00	0.00	32.00	32.00	4.57	5.65	1.07	33.07
DADRA & NAGAR HAVELI	0.00	0.00	0.00	0.00	0.00	0.00	9.15	6.07	-3.08	-3.08
ANDHRA PRADESH	0.00	354.85	354.85	22.06	93.71	71.64	33.05	35.94	2.90	429.39
KARNATAKA	347.81	14.66	-333.15	154.89	111.36	-43.53	9.75	65.12	55.37	-321.31
KERALA	0.00	72.28	72.28	20.50	3.02	-17.48	5.19	50.41	45.22	100.01
TAMIL NADU	0.00	297.72	297.72	0.00	74.38	74.38	99.89	5.96	-93.93	278.17
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	4.46	4.54	0.08	0.08
TELANGANA	9.61	661.65	652.04	50.30	138.87	88.57	27.73	46.16	18.43	759.04
WEST BENGAL	0.30	500.41	500.11	24.45	50.33	25.88	58.67	41.48	-17.19	508.80
ODISHA	124.21	182.88	58.67	54.62	8.64	-45.98	25.96	47.77	21.81	34.50
BIHAR	0.00	245.95	245.95	0.00	42.14	42.14	48.22	72.98	24.76	312.86
JHARKHAND	0.00	150.41	150.41	0.00	0.00	0.00	37.97	7.69	-30.27	120.13
SIKKIM	0.00	0.00	0.00	17.73	0.00	-17.73	11.83	0.61	-11.22	-28.95
DVC	91.26	0.00	-91.26	21.74	0.00	-21.74	35.33	19.93	-15.40	-128.40
ARUNACHAL PRADESH	0.00	0.00	0.00	0.00	7.26	7.26	2.03	14.11	12.08	19.33
ASSAM	0.00	0.00	0.00	1.30	51.88	50.58	15.36	26.85	11.48	62.06
MANIPUR	0.00	22.30	22.30	7.64	2.87	-4.77	12.37	2.00	-10.37	7.16
MEGHALAYA	0.00	14.79	14.79	0.46	30.19	29.73	5.45	5.42	-0.03	44.49
MIZORAM	0.00	0.00	0.00	2.63	0.02	-2.62	2.09	6.02	3.93	1.31
NAGALAND	0.00	10.80	10.80	0.00	1.20	1.20	1.90	7.69	5.79	17.79
TRIPURA	0.84	0.00	-0.84	45.87	0.00	-45.87	5.58	10.84	5.27	-41.45
GOA	0.00	30.41	30.41	6.21	11.55	5.34	6.78	29.63	22.86	58.61
NHPC STATIONS	0.00	0.00	0.00	125.96	0.00	-125.96	49.55	5.87	-43.68	-169.64
NJPC	0.00	0.00	0.00	7.58	0.00	-7.58	7.72	2.86	-4.86	-12.44
AD HYDRO	16.86	0.00	-16.86	20.92	0.00	-20.92	2.34	2.85	0.51	-37.27
KARCHAM WANGTOO	5.55	0.00	-5.55	114.56	0.00	-114.56	4.72	6.73	2.01	-118.10
SHREE CEMENT	148.41	0.00	-148.41	32.07	0.00	-32.07	1.24	3.16	1.92	-178.56
LANCO BUDHIL	0.00	0.00	0.00	25.70	0.00	-25.70	0.00	0.00	0.00	-25.70
MALANA	0.00	0.00	0.00	2.13	0.00	-2.13	0.00	0.00	0.00	-2.13
JINDAL POWER	76.82	0.00	-76.82	2.70	0.00	-2.70	6.50	7.65	1.14	-78.38

LANKO_AMK	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.43	-0.72	-0.72
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	3.93	3.47	-0.46	-0.46
ACBIL	8.46	0.00	-8.46	48.55	0.00	-48.55	0.86	8.64	7.78	-49.23
BALCO	0.00	0.00	0.00	0.00	0.00	0.00	1.01	6.30	5.29	5.29
RGPPPL(DABHOL)	0.00	0.00	0.00	0.00	0.00	0.00	0.02	7.29	7.27	7.27
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	31.28	24.58	-6.70	-6.70
DCPP	1.97	0.00	-1.97	130.06	0.00	-130.06	2.75	5.51	2.75	-129.28
EMCO	0.00	0.00	0.00	0.75	0.00	-0.75	0.00	0.00	0.00	-0.75
ESSAR STEEL	0.00	5.91	5.91	0.00	287.68	287.68	0.00	0.00	0.00	293.59
KSK MAHANADI	0.00	0.00	0.00	18.55	0.00	-18.55	0.00	0.00	0.00	-18.55
JINDAL STAGE-II	131.87	0.00	-131.87	24.09	0.00	-24.09	0.00	0.00	0.00	-155.95
DB POWER	0.00	0.00	0.00	2.21	0.00	-2.21	0.00	0.00	0.00	-2.21
JAYPEE NIGRIE	0.00	0.00	0.00	44.29	0.00	-44.29	0.00	0.00	0.00	-44.29
DGEN MEGA POWER	0.00	0.00	0.00	0.04	0.00	-0.04	0.00	0.00	0.00	-0.04
GMR CHHATTISGARH	0.00	1.46	1.46	0.00	0.00	0.00	0.00	0.00	0.00	1.46
KORBA WEST POWER	0.00	0.00	0.00	103.79	0.00	-103.79	0.00	0.00	0.00	-103.79
SIMHAPURI	259.90	0.00	-259.90	36.33	0.00	-36.33	2.33	2.24	-0.09	-296.32
MEENAKSHI	120.58	0.00	-120.58	9.02	0.00	-9.02	0.00	0.00	0.00	-129.60
COASTGEN	297.49	0.00	-297.49	0.00	0.00	0.00	0.00	0.00	0.00	-297.49
THERMAL POWERTECH	133.36	0.00	-133.36	8.95	0.00	-8.95	0.00	0.00	0.00	-142.30
STERLITE	393.00	0.00	-393.00	45.26	0.00	-45.26	5.60	39.97	34.37	-403.88
MAITHON POWER LTD	64.64	0.00	-64.64	19.23	0.00	-19.23	7.38	4.32	-3.06	-86.94
ADHUNIK POWER LTD	86.03	0.00	-86.03	19.70	0.00	-19.70	0.00	0.00	0.00	-105.73
CHUZACHEN HEP	0.00	0.00	0.00	22.48	0.00	-22.48	0.00	0.00	0.00	-22.48
RANGIT HEP	0.00	0.00	0.00	3.08	0.00	-3.08	0.00	0.00	0.00	-3.08
GMR KAMALANGA	310.43	0.00	-310.43	34.61	0.00	-34.61	0.00	0.00	0.00	-345.04
JITPL	38.87	0.00	-38.87	311.00	0.00	-311.00	0.00	0.00	0.00	-349.87
TEESTA HEP	0.00	0.00	0.00	18.48	0.00	-18.48	0.00	0.00	0.00	-18.48
DAGACHU	12.59	0.00	-12.59	0.00	0.00	0.00	4.14	15.96	11.83	-0.76
NEEPCO STATIONS	0.00	0.00	0.00	0.89	0.00	-0.89	3.39	1.92	-1.47	-2.37
ONGC PALATANA	0.00	0.00	0.00	0.55	0.00	-0.55	0.00	0.00	0.00	-0.55

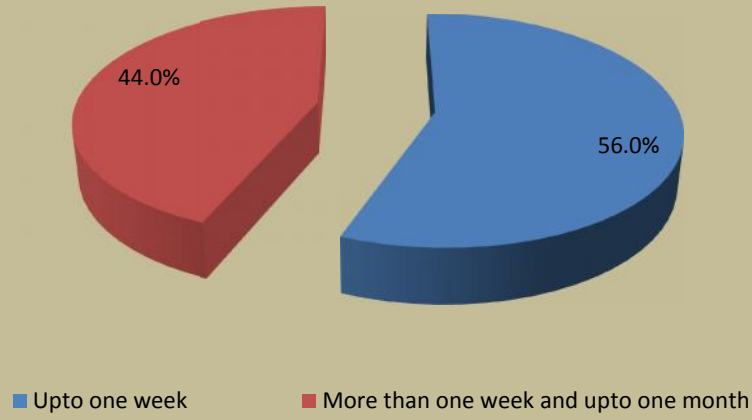
Source: NLDC

\* 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.

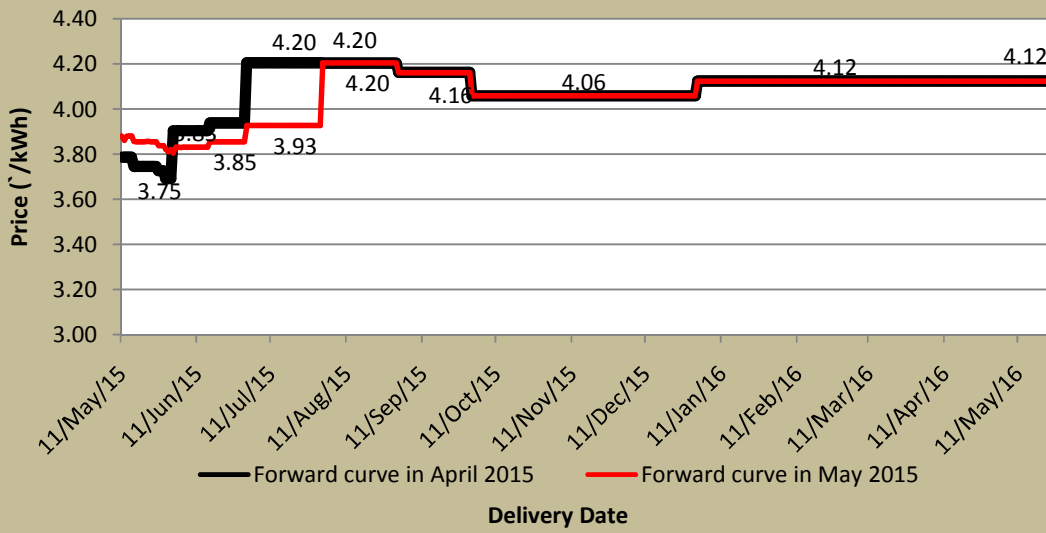
\*\* (-) indicates sale and (+) indicates purchase,

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

**Figure 7: Bilateral Contracts executed by Traders in May, 2015**



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





<b>Table-20 : VOLUME AND PRICE OF RENEWABLE ENERGY CERTIFICATES (RECs) TRANSACTIONED THROUGH POWER EXCHANGES, April 2015</b>					
<b>Sr.No.</b>	<b>Details of REC Transactions</b>	<b>IEX</b>		<b>PXIL</b>	
		<b>Solar</b>	<b>Non-Solar</b>	<b>Solar</b>	<b>Non Solar</b>
A	Volume of Buy Bid	6721	38481	1801	17131
B	Volume of Sell Bid	980521	5321693	798473	5345990
C	Ratio of Buy Bid to Sell Bid Volume	0.01	0.01	0.002	0.003
D	Market Clearing Volume (MWh)	6721	38481	1801	17131
E	Market Clearing Price (₹/MWh)	3500	1500	3500	1500

Source: IEX and PXIL

Note 1: 1 REC = 1 MWh

Note 2:

<i>Forbearance and Floor Price w.e.f 1st March 2015</i>		
Type of REC	<i>Floor Price (₹/MWh)</i>	<i>Forbearance Price (₹/MWh)</i>
<i>Solar</i>	<i>3500.00</i>	<i>5800.00</i>
<i>Non-Solar</i>	<i>1500.00</i>	<i>3300.00</i>