



भारत सरकार/ Government of India
विद्युत मंत्रालय/ Ministry of Power
केन्द्रीय विद्युत प्राधिकरण/ Central Electricity Authority
आर. ए. प्रभाग/ Regulatory Affairs Division

सेवा में /To

1. Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi- 110001.
2. Secretary, Ministry of New & Renewable Energy, Atal Akshay Urja Bhawan, CGO Complex, Lodhi Road, New Delhi- 110003.
3. Secretary, CERC, 7th Floor, Tower B, World Trade Centre, Nauroji Nagar, New Delhi- 110029.

विषय: जुलाई, 2024 माह की मार्केट मॉनिटरिंग रिपोर्ट।

Subject: Monthly Market Monitoring Report for the month of July, 2024.

महोदय/ Sir,

जुलाई, 2024 माह के लिए केंद्रीय विद्युत प्राधिकरण द्वारा तैयार की गई मासिक मार्केट मॉनिटरिंग रिपोर्ट (MMMR) की एक प्रति सूचना और अवलोकन के लिए संलग्न है। A copy of the monthly market monitoring report (MMMR) prepared by Central Electricity Authority for the month of July, 2024 is enclosed herewith for kind information and perusal.

जुलाई, 2024 माह के दौरान मार्केट के संचालन की मुख्य विशेषताएं इस प्रकार रही। Key highlights of the market operation during July, 2024 are as under:

- (i) जुलाई, 2024 माह में देश में कुल 149,852 MU विद्युत का कारोबार किया गया, जिसमें से 73,100 MU का कारोबार अंतर्राज्यीय पारेषण प्रणाली (Inter State Transmission System) के माध्यम से किया गया था और शेष राज्य नियंत्रित उत्पादन स्टेशनों से अंतराराज्यीय पारेषण प्रणाली (Intra State Transmissions System) के माध्यम से किया गया।
In the month of July, 2024 a total of 149,852 MU of electricity was transacted in the country out of which 73,100 MU was transacted through ISTS, and the remaining through state controlled generating stations through Intra State Transmissions System.
- (ii) अल्पावधि मार्केट के अंतर्गत कुल 22,977 MU का कारोबार किया गया था, जिसमें से 11,376 MU पावर एक्सचेंजों के माध्यम से कारोबार किया गया और शेष द्विपक्षीय कारोबार और विचलन (deviations) के रूप में हुआ। इस प्रकार अल्पावधि कारोबार, जुलाई, 2024 माह में ट्रेड की गई विद्युत की कुल मात्रा का 15.33 % था और 7.59 % पावर एक्सचेंजों के माध्यम से रहा।

A total of 22,977 MU was transacted under Short Term Market, out of which 11,376 MU was transacted through Power Exchanges and remaining happened as bilateral transactions & deviations. Thus, the total short term trade in July, 2024 was 15.33 % of total volume of electricity traded in July, 2024 and 7.59 % was through Power Exchanges.

- (iii) यदि हम अंतर्राज्यीय पारेषण प्रणाली (ISTS) के माध्यम से आपूर्ति की गई विद्युत के संबंध में इन कारोबारों की तुलना करते हैं, तो अल्पावधि कारोबार अंतर्राज्यीय पारेषण प्रणाली (ISTS) कारोबार का लगभग 31.43 % रहा, जिसमें से पावर एक्सचेंजों के माध्यम से कारोबार 15.56 % रहा।

If we compare these transactions with respect to the electricity supplied through ISTS, the short term transactions constitutes about 31.43 % of ISTS transactions, out of which transaction through the power exchanges constitutes 15.56 %.

Signed by Vikram Singh भवदीय/ Yours faithfully,
Date: 11-09-2024 16:21:32

(विक्रम सिंह / Vikram Singh)
मुख्य अभियंता (आर.ए.)/ Chief Engineer (RA)

प्रतिलिपि/ Copy for information, through email, to:

1. O/o Chairperson, CEA
2. O/o Member (E&C), CEA
3. Secretary (All SERCs and JERCs)
4. CMD, Grid Controller of India Limited (GRID-INDIA), B-9 (1st Floor), Qutab Institutional Area, Katwaria Sarai, New Delhi -110016.
5. CMD, Indian Energy Exchange (IEX), 9th Floor, Max Towers, Sector 16B, Noida-201301.
6. MD & CEO, Power Exchange India Limited (PXIL), Sumer Plaza, 9th floor, Unit no - 901, Marol Maroshi Road, Andheri (East), Mumbai-400 059.
7. COO, Hindustan Power Exchange Limited (HPX), World Trade Tower, 8th Floor, Sector 16, Noida, Uttar Pradesh – 201301.

CEA website (<https://cea.nic.in/market-monitoring-report/?lang=en>)



सत्यमेव जयते

मासिक मार्केट मॉनिटरिंग रिपोर्ट - जुलाई, 2024

Monthly Market Monitoring Report

July, 2024



भारत सरकार/ Government of India
विद्युत मंत्रालय/ Ministry of Power
केन्द्रीय विद्युत प्राधिकरण/ Central Electricity Authority
आर. ए. प्रभाग / Regulatory Affairs Division

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**जुलाई, 2024 की मासिक मार्केट
मॉनिटरिंग रिपोर्ट का सारांश**

**Summary of Market Monitoring Report
For the month of July, 2024**

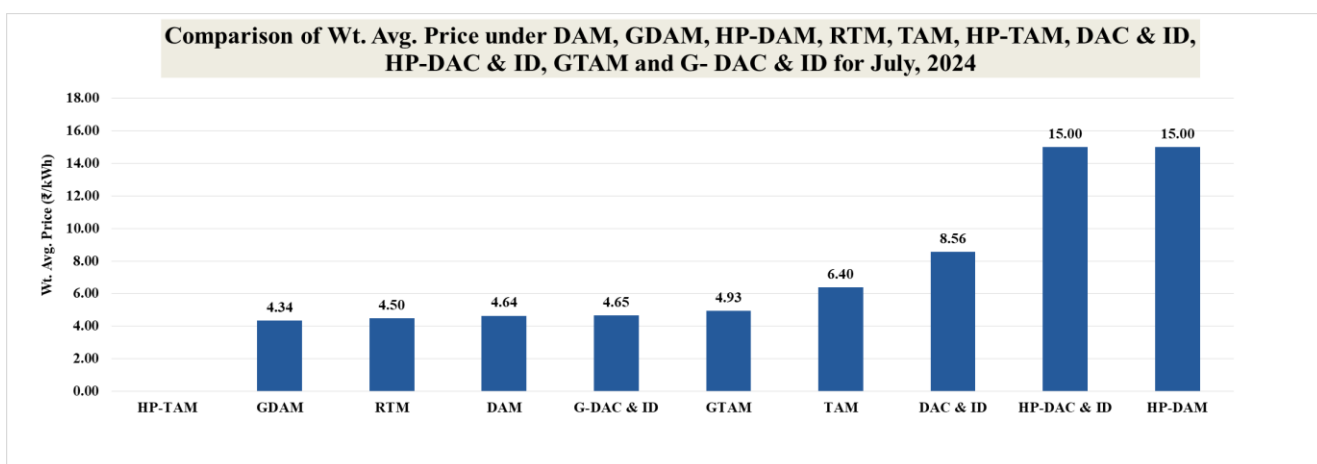
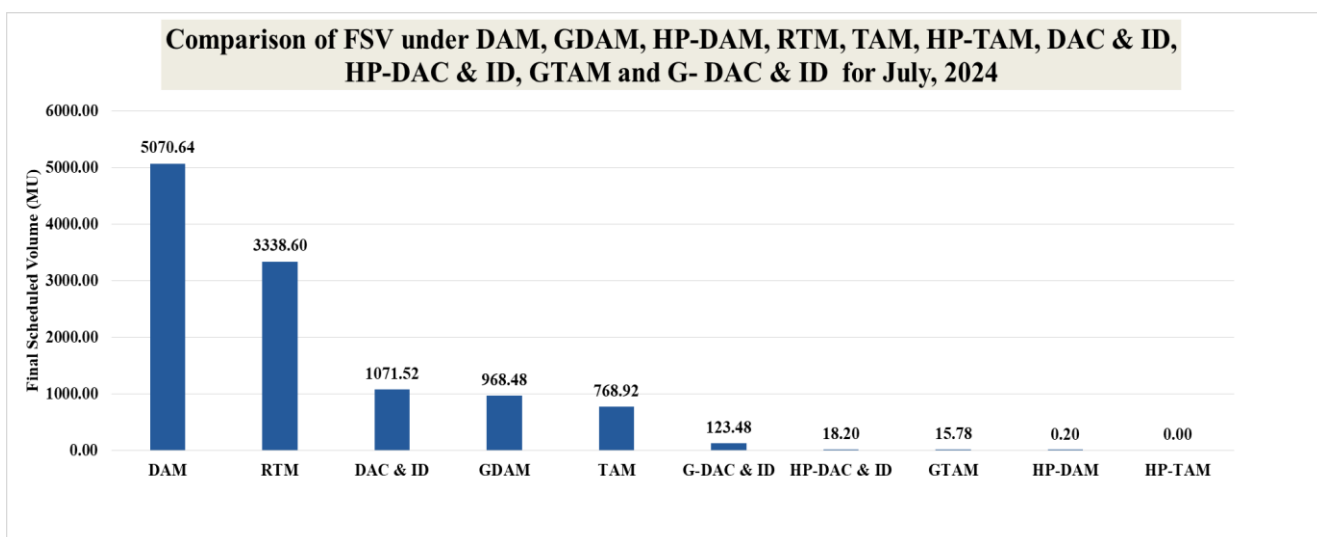
जुलाई, 2024 माह के लिए सारांश Summary for Month: July, 2024

भारत में विद्युत एक्सचेंजों पर विद्युत के व्यापार का सारांश

Summary of Electricity Transactions on Power Exchanges in India

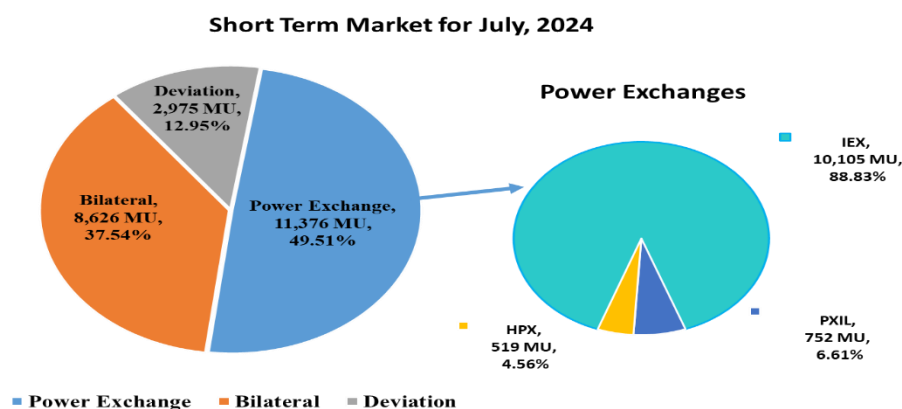
- जुलाई, 2024 के दौरान विद्युत एक्सचेंजों (यानी आईईएक्स, पीएक्सआईएल और एचपीएक्स) के माध्यम से कुल **11,376 MU** विद्युत का कारोबार किया गया। विद्युत की यह मात्रा डिलीवरी की तारीख के आधार पर है और इसमें DAM, GDAM, HP-DAM, RTM, TAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM और G-DAC & ID मार्केट खंडों के माध्यम से कारोबार शामिल हैं।

A total volume of **11,376 MU** electricity was transacted through power exchanges i.e. IEX, PXIL & HPX, during the month of July, 2024. This volume of electricity is on delivery date basis and includes transactions through DAM, GDAM, HP-DAM, RTM, TAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM and G-DAC & ID market segments.



- द्विपक्षीय व्यापार के तहत कुल **8,626 MU** विद्युत का कारोबार किया गया और **2,975 MU** को विचलन के रूप में लेनदेन किया गया। इस प्रकार कुल **22,977 MU** विद्युत का कारोबार अल्पावधि व्यापार के रूप में किया गया था। जुलाई, 2024 के महीने में देश में कुल **149,852 MU** विद्युत की आपूर्ति की गई थी, इस प्रकार जुलाई, 2024 माह में कारोबार की गई विद्युत की कुल मात्रा में अल्पावधि बाजार का हिस्सा **15.33 %** था।

Under the Bilateral trade, a total of **8,626 MU** of electricity was transacted and **2,975 MU** was transacted as deviation from schedule. Thus, a total of **22,977 MU** of electricity was transacted as short term trade (Power Exchange + Bilateral trade + deviation from schedule). In July, 2024, a total of **149,852 MU** of electricity was supplied in the country, thus, the share of short term market in the total volume of electricity supplied in July, 2024 was **15.33 %**.



- जुलाई, 2024 के दौरान संचरण जाम की कुल मात्रा **175.18 MU** थी, जो की विद्युत एक्सचेंजों में कारोबार की गई विद्युत की कुल मात्रा का केवल **1.54 %** है और जुलाई, 2024 के महीने के दौरान आपूर्ति की गई कुल ऊर्जा का **0.12 %** है।
The total volume affected by the transmission congestion during the month of July, 2024 was **175.18 MU** which is only **1.54 %** of the total volume of electricity transacted in the power exchanges and **0.12 %** of total energy supplied during the month of July, 2024.

DAM में **21** दिन अर्थात् दिनांक 02 से 04, 13, 14 एवं 16 से 31 जुलाई, 2024, GDAM में **20** दिन अर्थात् दिनांक 01 से 04, 13, 14, 16 से 19 एवं 21 से 30 जुलाई, 2024, RTM में **22** दिन अर्थात् दिनांक 01 एवं 11 से 31 जुलाई, 2024, TAM में **1** दिन अर्थात् दिनांक 26 जुलाई, 2024, DAC & ID में **16** दिन अर्थात् दिनांक 02, 03, 10, 12, 13, 15 से 20, 22 से 25 एवं 30 जुलाई, 2024 और G-DAC & ID में **2** दिन अर्थात् दिनांक 20 एवं 25 जुलाई, 2024 को संचरण जाम देखा गया। जबकि HP-DAM, HP-TAM, HP-DAC & ID और GTAM में कोई संचरण जाम नहीं देखा गया। जुलाई, 2024 माह के महीने में रिपोर्ट की गई वास्तविक समय में विद्युत कटौती की कुल मात्रा केवल **62.51 MU** थी।

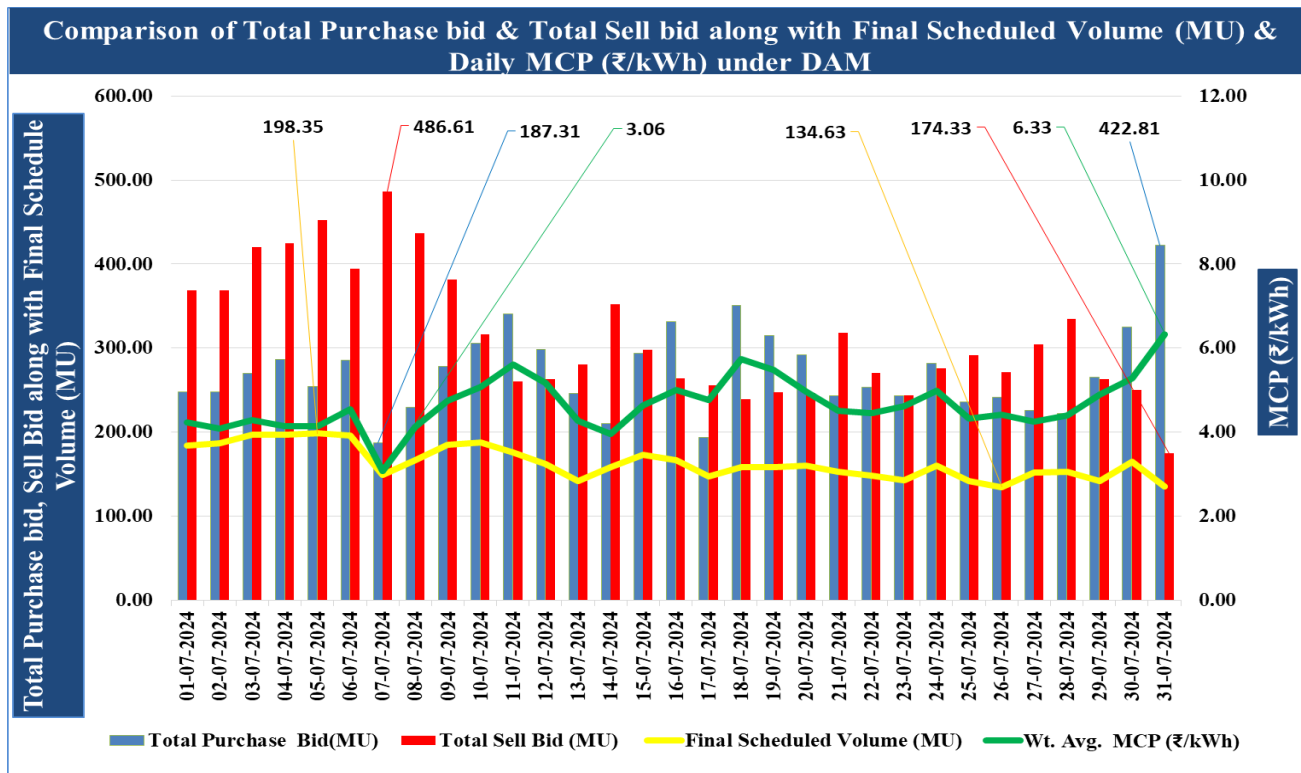
Transmission congestion was observed in DAM on **21** days i.e. 02nd to 04th, 13th, 14th & 16th to 31st July, 2024, in GDAM on **20** days i.e. 01st to 04th, 13th, 14th, 16th to 19th & 21st to 30th July, 2024, in RTM on **22** days i.e. 01st & 11th to 31st July, 2024, in TAM on **1** day i.e. 06th July, 2024 in DAC & ID on **16** days i.e. 02nd, 03rd, 10th, 12th, 13th, 15th to 20th, 22nd to 25th & 30th July, 2024 and in G-DAC & ID on **2** days i.e. 20th & 25th July, 2024. Whereas, there was no impact of congestion in HP-DAM, HP-TAM, HP-DAC & ID and GTAM. The total volume of real time curtailment reported in the month of July, 2024 was only **62.51 MU**.

- जुलाई, 2024 माह के दौरान अंतर्राज्यीय पारेषण प्रणाली (ISTS) में निर्धारित अनुसूचित विद्युत की कुल मात्रा **73,100 MU** थी। जुलाई, 2024 के महीने में अल्पावधि बाजार में विद्युत का लेन-देन अंतर्राज्यीय पारेषण प्रणाली (ISTS) के माध्यम से अनुसूचित की गई कुल विद्युत की मात्रा का **31.43 %** रहा।
The total volume of electricity scheduled through ISTS during the month of July, 2024 was **73,100 MU**. The total volume of electricity transacted in the short term market was **31.43 %** of total volume schedule at ISTS in July, 2024.

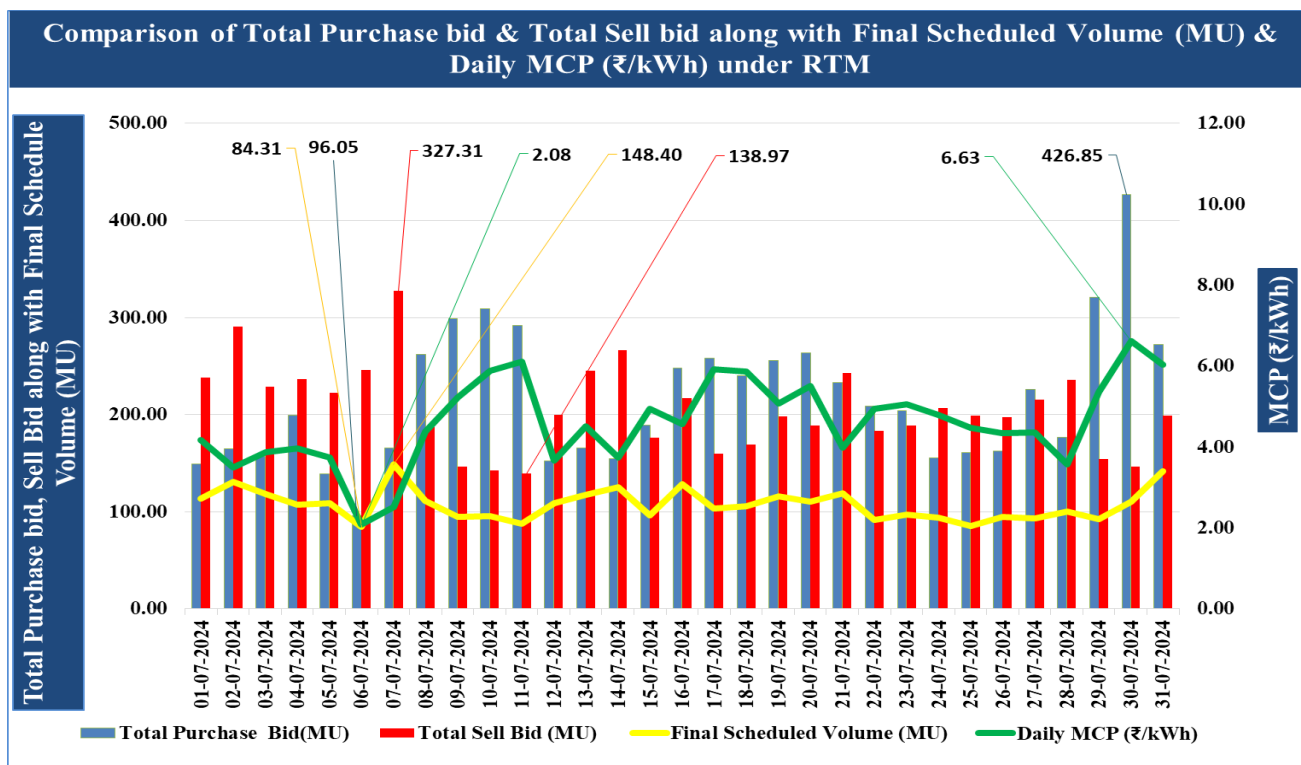
- जुलाई, 2024 माह के दौरान DAM और RTM में विद्युत की खरीद और बिक्री बोलियों, अंतिम अनुसूचित मात्रा और दैनिक औसत MCP की भिन्नता निम्नलिखित चित्रों में दर्शाई गई है:

The variation of Purchase and Sell bids, Final Scheduled Volume and Daily Wt. Avg. MCP under DAM and RTM during the month of July, 2024 are shown in following figures:

DAM Volume



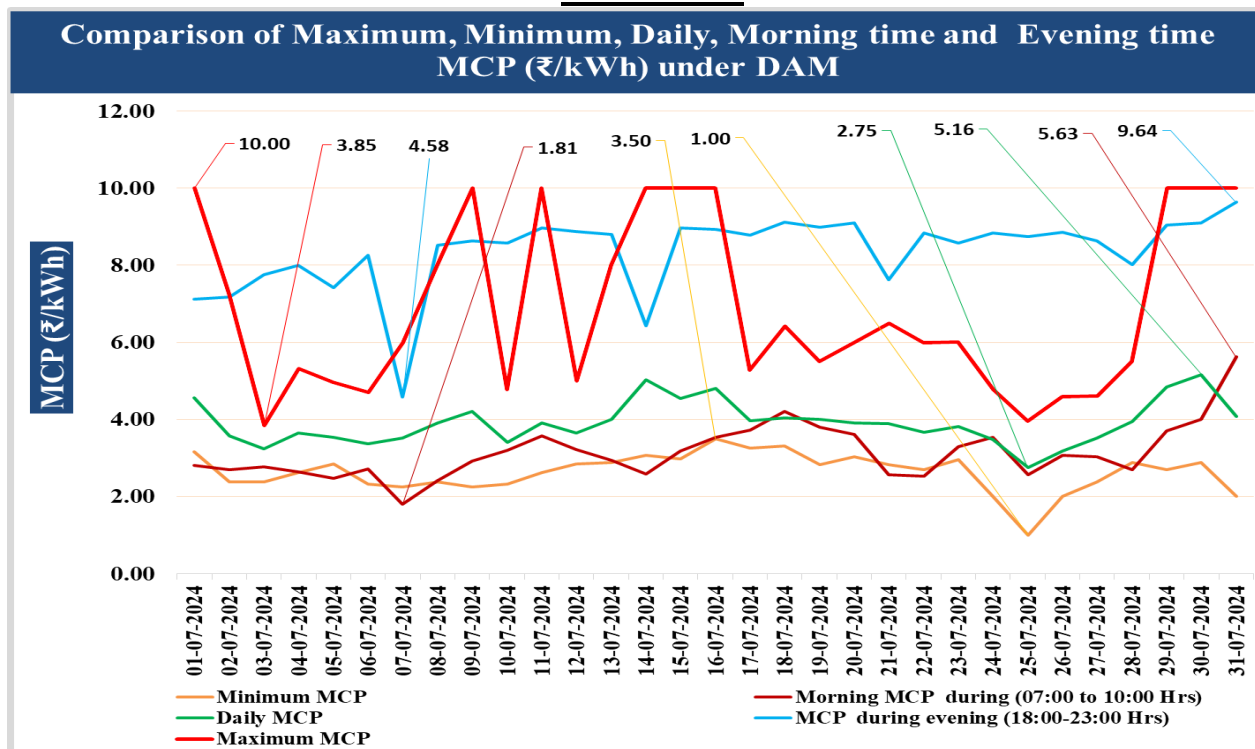
RTM Volume



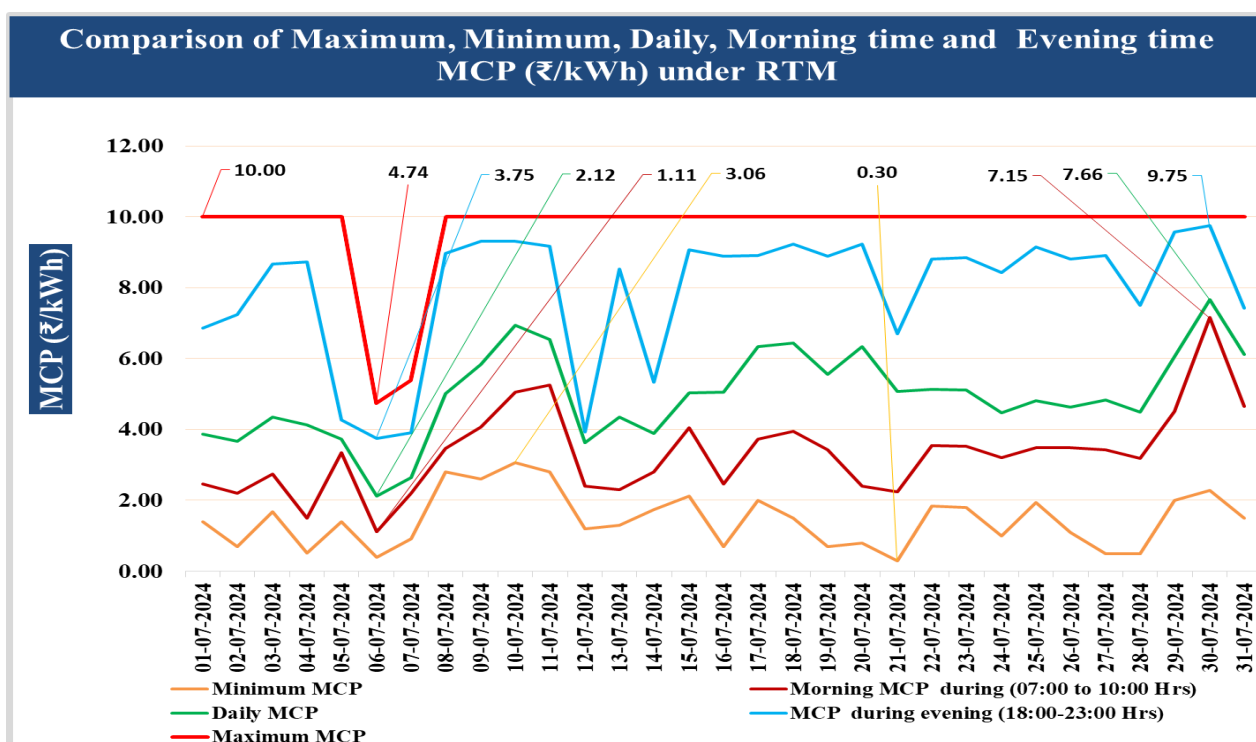
- जुलाई, 2024 माह के दौरान DAM और RTM में अधिकतम, न्यूनतम, दैनिक, सुबह और शाम के समय MCP की भिन्नता निम्नलिखित चित्रों में दिखाई गई है:

The variation of Maximum, Minimum, Daily, Morning and Evening time MCPs under DAM and RTM during the month of July, 2024 are shown in following figures:

DAM Prices



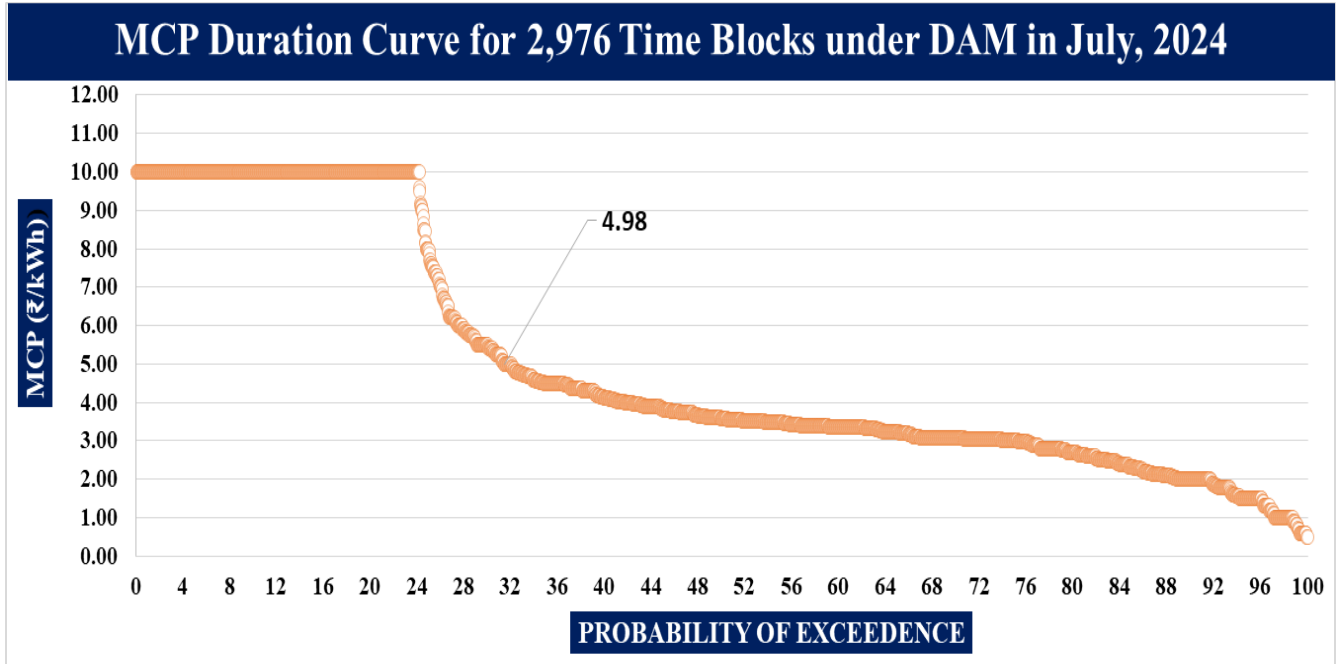
RTM Prices



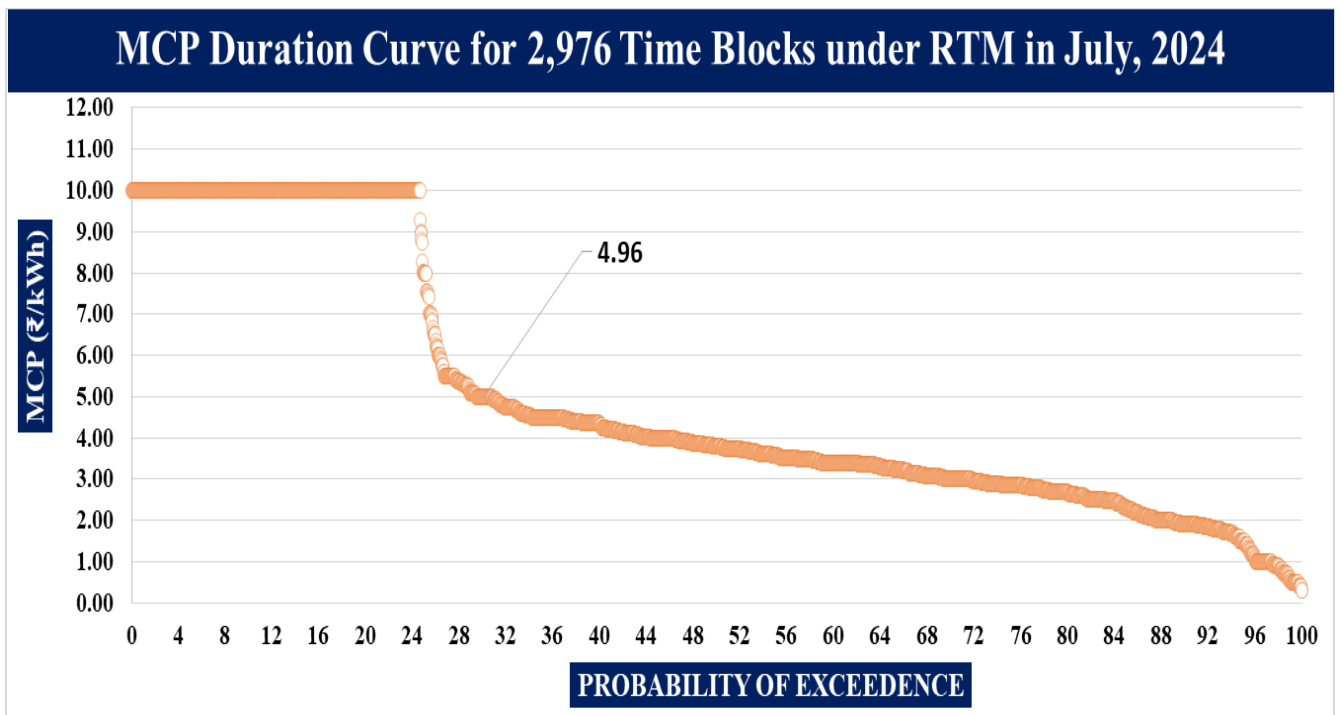
- जुलाई, 2024 के महीने के दौरान DAM और RTM के तहत समय ब्लॉकवार MCP अवधि वक्र निम्नलिखित चित्रों में में दिखाए गए हैं:

The Market Clearing Price duration curves for time block wise under DAM and RTM during the month of July, 2024 are shown in following figures:

DAM MCP duration curve



RTM MCP duration curve



MARKET MONITORING REPORT DETAILS

Electricity Transactions on Power Exchanges in India

1. Day Ahead Market (DAM)

The volume of electricity transacted under DAM was **5,070.64 MU** at a Wt. Avg. Price of **₹ 4.64/kWh** in July, 2024.

- 1.1.** The total volume of electricity transacted on the power exchanges, viz., IEX, HPX and PXIL in the Day Ahead Market (DAM) in July, 2024 was **5,070.64 MU**. The total energy supplied in the country during the month of July, 2024 was **149,852 MU**. Thus, the volume of electricity transacted on the power exchanges under DAM during July, 2024 was 3.38 % of the total energy supplied in the country. Comparing with the total volume of electricity transacted under DAM during last month June, 2024 i.e. **4,836.23 MU** which was 3.17 % of the total energy supplied (**152,374 MU**) in the country during June, 2024. Similarly, the total volume of electricity transacted under DAM during previous year i.e. July, 2023, was **3,966.20 MU** which was 2.82 % of the total energy supplied (**140,419 MU**) in the country during July, 2023.
- 1.2.** The DAM volume for July, 2024 in IEX is inclusive of Cross Border Transactions of Electricity with Nepal and Bhutan (details given at **Annexure XII**), which was **420.53 MU** (i.e. 360.64 MU sold by Nepal, 59.89 MU sold by Bhutan).
- 1.3.** The Average Market Clearing Price (MCP) on IEX during the month of July, 2024 was **₹ 4.64/kWh**, which shows of a decrease 4.72 % & an increase of 2.65 % when compared with Wt. Avg. MCP's for the month of June, 2024 and July, 2023, which were **₹ 4.87/kWh** and **₹ 4.52/kWh**, respectively. On PXIL & HPX, no transaction of electricity took place during July, 2024.
- 1.4.** The Comparison of Final Scheduled Volume (FSV) and Wt. Avg. Price of IEX, PXIL and HPX under DAM for July, 2024 vs June, 2024 and July, 2023 is shown below as **Figure-1**:

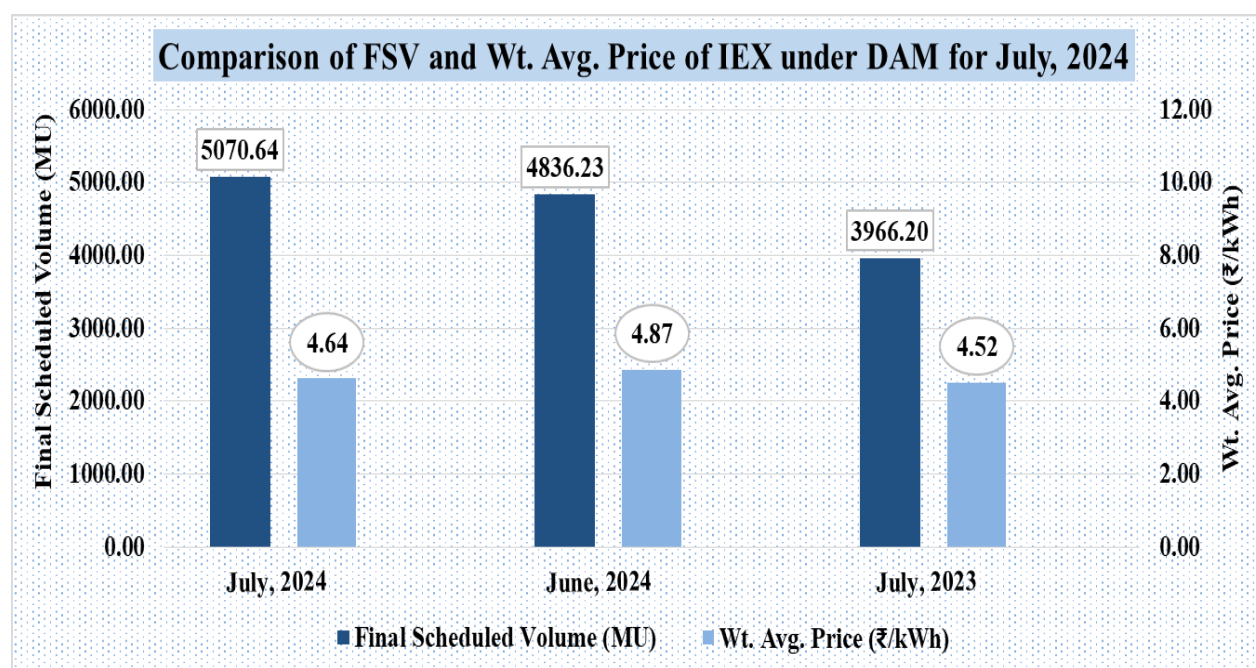


Figure-1

- 1.5.** The maximum Area Clearing Price (ACP) of ₹ 10.00/kWh in IEX was observed in all 13 regions during 758 time blocks from 1st, 9th, 11th, 14th to 16th & 29th to 31st July, 2024. Further, in PXIL & HPX, no transaction of electricity took place during July, 2024.
- 1.6.** The minimum ACP of ₹ 0.50/kWh in IEX was observed in 13 regions during the time block 13:15 - 13:30 Hrs on 21th July, 2024. Further, in PXIL & HPX, no transaction of electricity took place during July, 2024.

2. Real Time Market (RTM)

The volume of electricity transacted under RTM was 3,338.60 MU at a Wt. Avg. Price of ₹ 4.50/kWh in July, 2024.

- 2.1. The total volume of electricity transacted on the power exchanges under Real Time Market in July, 2024 was **3,338.60 MU**, out of which **3,333.89 MU** (99.86 %) was transacted in IEX, **0.98 MU** (0.03 %) was transacted in PXIL and **3.73 MU** (0.11 %) was transacted in HPX.
- 2.2. The Comparison of Final Scheduled Volume (FSV) and Wt. Avg. Price of IEX, PXIL and HPX under RTM for July, 2024 vs June, 2024 and July, 2023 is shown below as **Figure-2, Figure-3 & Figure-4**:

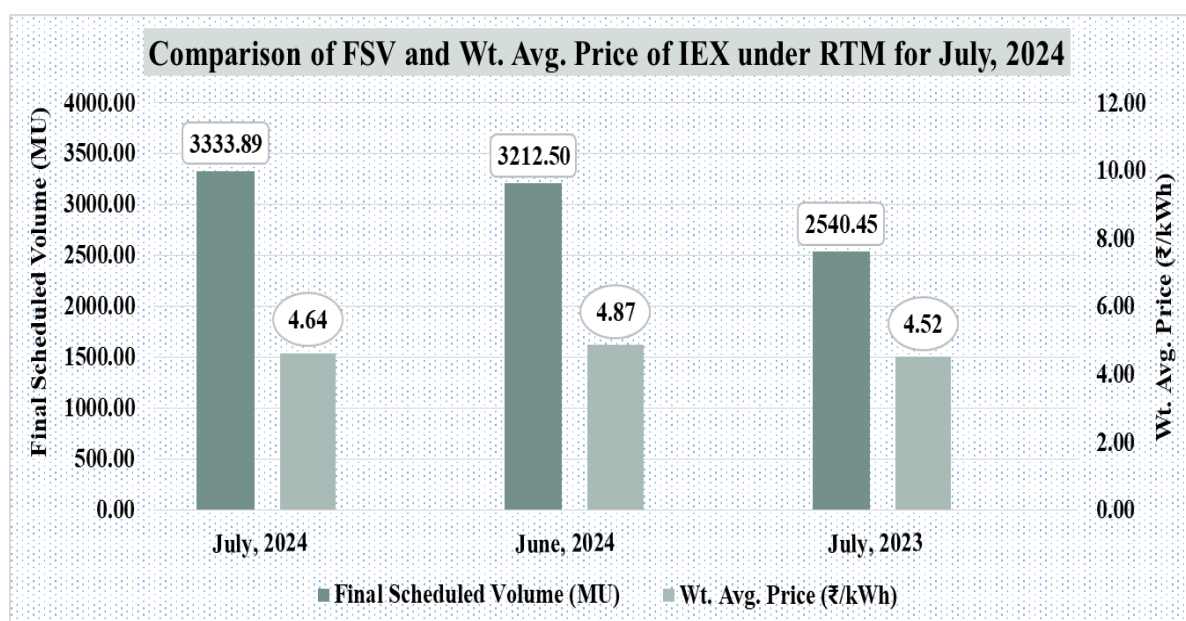


Figure-2

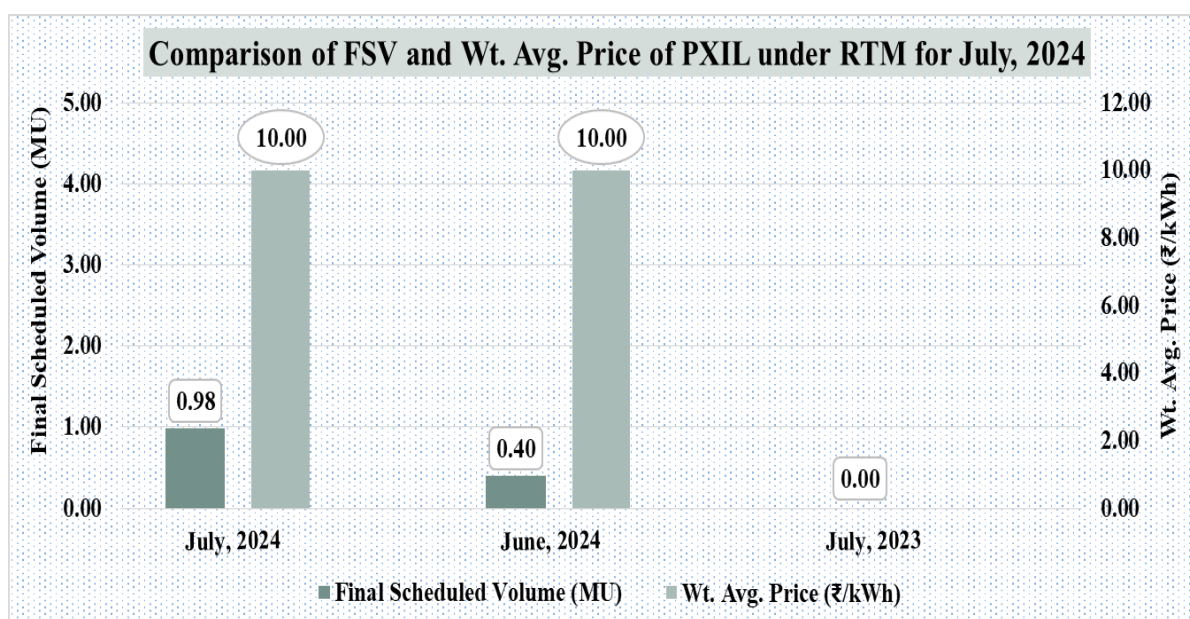


Figure-3

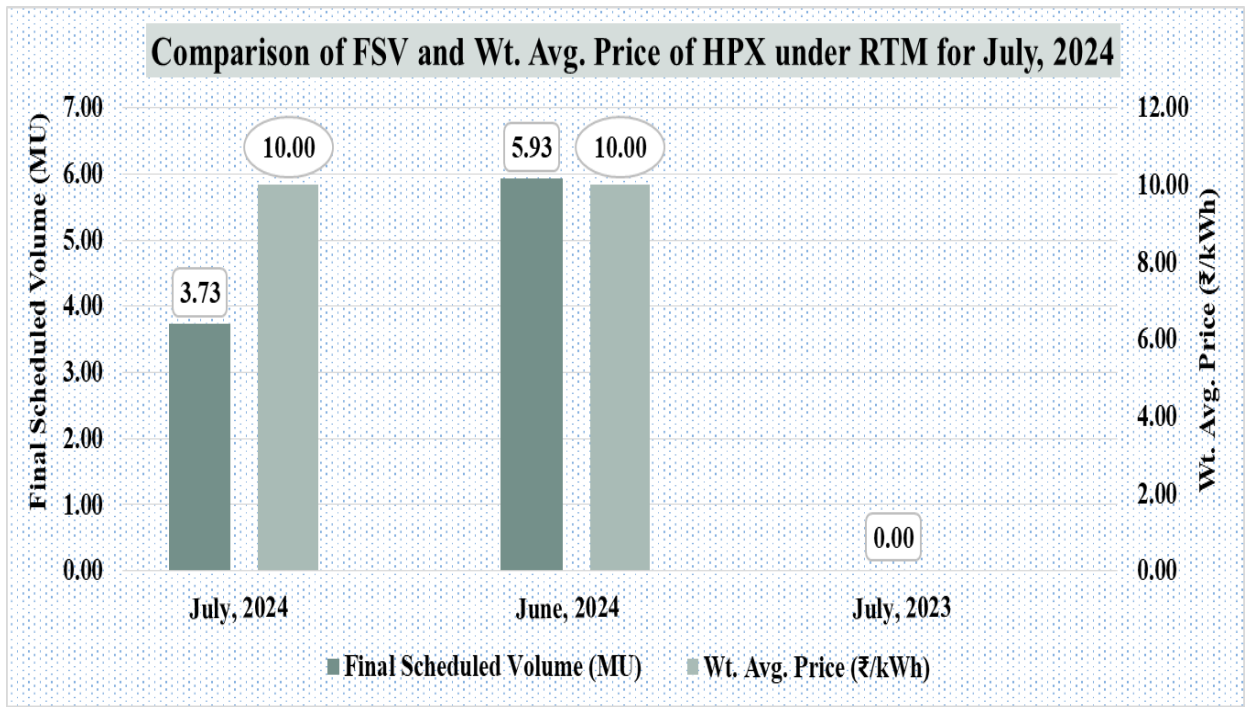


Figure-4

2.3. The RTM volume for July, 2024 in IEX is inclusive of Cross Border Transactions of Electricity with Nepal and Bhutan (details given at **Annexure XIII**), which was **28.79 MU** (i.e. 28.08 MU sold by Nepal, 0.71 MU sold by Bhutan).

3. Green Day Ahead Market (GDAM)

The volume of electricity transacted under GDAM was 968.48 MU at a Wt. Avg. Price of ₹ 4.34/kWh in July, 2024.

3.1. The volume of electricity transacted under GDAM in July, 2024 was **968.48 MU** (366.86 MU in Solar, **561.96 MU** in Non-Solar and **39.66 MU** in Hydro) in IEX at a Wt. Avg. MCP of ₹ 4.34/kWh and no transaction took place in PXIL & HPX under GDAM.

3.2. The Comparison of Final Scheduled Volume (FSV) and Wt. Avg. Price of IEX under GDAM for July, 2024 vs June, 2024 and July, 2023 is shown below as **Figure-5**:

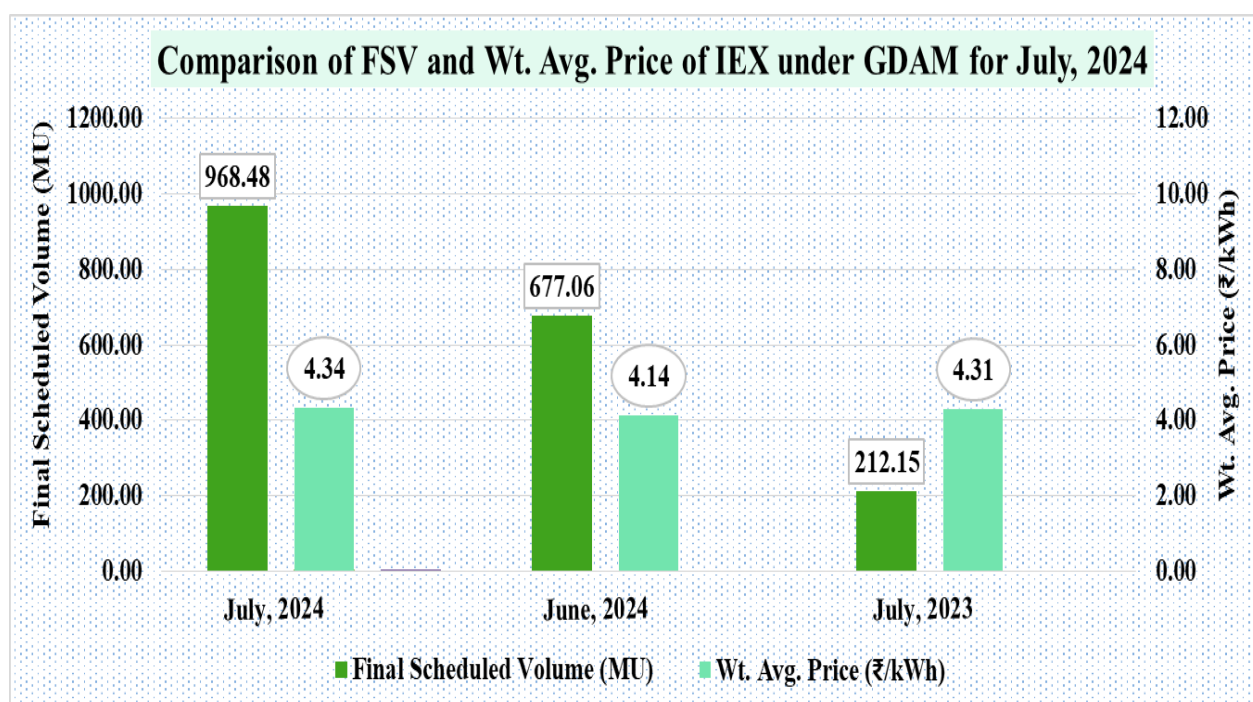


Figure-5

3.3. There was no real time curtailment in the power exchanges under Green Day Ahead Market during the month of July, 2024, June, 2024 and July, 2023.

3.4. The **top 10 sellers** on the power exchanges under Green Day Ahead Market (GDAM) in July, 2024 were **Karnataka, ADANI RENEWABLE ENERGY HOLDING FOUR LIMITED, RENEW SURYA OJAS PRIVATE LIMITED-Wind, Himachal Pradesh, Maharashtra, Adani Green Energy Twenty Five B Limited_infirm, ADANI WIND ENERGY KUTCHH FOUR Ltd. Nakhatrana, Meghalaya, Andhra Pradesh and ADANI SOLAR ENERGY RJ TWO PRIVATE LIMITED, which constituted 64.90 % of the market volume.**

3.5. The **top 10 buyers** on the power exchanges under Green Day Ahead Market (GDAM) in July, 2024 were **Punjab, Bihar, Odisha, ArcelorMittal Nippon steel (ESIL), Maharashtra, Jharkhand, Tamil Nadu, DVC and Gujarat Railways which constituted 89.37 % of the market volume.**

4. Term Ahead Market (TAM)

The volume of electricity transacted under TAM was 768.92 MU at a Wt. Avg. Price of ₹ 6.40/kWh in July, 2024

4.1. The total volume of electricity transacted on the power exchanges on delivery date basis under Term Ahead Market in July, 2024, June, 2024 and July, 2023 is tabulated below:

Month	Total Volume (in MU)	IEX in MU (in % of total volume)	PXIL in MU (in % of total volume)	HPX in MU (in % of total volume)
July, 2024	768.92	337.92 (43.95 %)	253.37 (32.95 %)	177.63 (23.10 %)
June, 2024	2,016.66	1054.97 (52.31%)	564.87 (28.01 %)	396.82 (19.68 %)
July, 2023	462.02	287.60 (62.25 %)	20.40 (4.42 %)	154.02 (33.34 %)

4.2. In the month of July, 2024, no transaction took place in IEX, PXIL & HPX under **High Price Term Ahead Market (HP-TAM)**.

4.3. With respect to the total energy supplied during the month of July, 2024 in the country, the volume of electricity traded on the power exchanges under TAM on delivery date basis represents **0.51 %** of the total energy supplied. The same was **1.32 %** in June, 2024 and **0.33 %** in July, 2023.

4.4. In July, 2024, there was transmission congestion of **6.25 MU** under TAM in PXIL.

4.5. There was real time curtailment of **52.40 MU** under TAM, out of which 27.55 MU in IEX, 21.61 MU in PXIL and 3.25 MU in HPX.

4.6. The comparison of total volume of electricity transacted and Wt. Avg. MCP in the power exchanges under Term Ahead Market (TAM) on delivery date basis during July, 2024 with June, 2024 and July, 2023 are shown in Table – 1A & 1B:

(i) Final Scheduled Volume (MU), July, 2024 vis- a- vis June, 2024 and July, 2023

Exchange	Period	Final Scheduled Volume (MU)				
		Daily or Any Day	Weekly	Monthly	Anyday Single Side	Total
IEX	July, 2024	205.37	-	57.74	74.81	337.92
	June, 2024	389.62	-	348.68	316.67	1054.97
	%Change (Month over Month)	-47.29	NA	-83.44	-76.38	-67.97
	July, 2023	69.60	75.60	-	142.40	287.60
	%Change (Year over Year)	195.07	NA	NA	-47.46	17.50
PXIL	July, 2024	119.62	-	59.78	73.97	253.37
	June, 2024	310.86	-	197.70	56.31	564.87

Exchange	Period	Final Scheduled Volume (MU)				
		Daily or Any Day	Weekly	Monthly	Anyday Single Side	Total
	%Change (Month over Month)	-61.52	NA	-69.76	31.36	-55.15
	July, 2023	-	-	-	20.40	20.40
	%Change (Year over Year)	NA	NA	NA	262.60	1142.01
HPX	July, 2024	17.85	-	-	159.78	177.63
	June, 2024	196.78	-	86.39	113.65	396.82
	%Change (Month over Month)	-90.93	NA	NA	40.59	-55.24
	July, 2023	-	-	-	154.02	154.02
	%Change (Year over Year)	NA	NA	NA	3.74	15.33

- : No transaction took place

NA: Not Applicable

Table: 1A

(ii) Wt. Avg. MCP, July, 2024 vis- a- vis June, 2024 and July, 2023

Exchange	Period	Wt. Average MCP (₹/kWh)			
		Daily or Any Day	Weekly	Monthly	Anyday Single Side
IEX	July, 2024	6.02	-	5.90	6.94
	June, 2024	8.20	-	6.77	8.31
	%Change (Month over Month)	-26.59	NA	-12.85	-16.49
	July, 2023	4.35	4.40	-	5.13
	%Change Year over Year)	38.39	NA	NA	35.28
PXIL	July, 2024	7.71	-	5.90	5.84
	June, 2024	8.00	-	6.93	9.95
	%Change (Month over Month)	-3.63	NA	-14.86	-41.31
	July, 2023	-	-	-	4.45
	%Change (Year over Year)	NA	NA	NA	31.24
HPX	July, 2024	9.01	-	-	5.97
	June, 2024	9.95	-	6.94	9.95
	%Change (Month over Month)	-9.45	NA	NA	-40.00
	July, 2023	-	-	-	5.81
	%Change Year over Year)	NA	NA	NA	2.75

-: No transaction took place

NA: Not Applicable

Table: 1B

5. Day Ahead Contingency & Intra Day (DAC & ID)

The volume of electricity transacted under DAC & ID was 1,071.52 MU at a Wt. Avg. Price of ₹ 8.56/kWh in July, 2024.

- 5.1. The volume of electricity transacted on IEX, PXIL and HPX under DAC & ID on delivery date basis during July, 2024 were **373.88 MU**, **473.59 MU** and **224.05 MU**, respectively.
- 5.2. In the month of July, 2024, the transaction of electricity in IEX in **High Price Day Ahead Contingency & Intra Day (HP- DAC & ID)** under DAC contract was **1.10 MU** at an average MCP of ₹ 15.00/kWh and under ID contract was **1.11 MU** at an average MCP of ₹ 15.00/kWh, while in PXIL under DAC contract was **1.01 MU** at an average MCP of ₹ 15.00/kWh and under ID contract was **14.98 MU** at an average MCP of ₹ 15.00/kWh whereas no transaction took place in HPX under HP- DAC & ID.
- 5.3. In July, 2024, there was transmission congestion **8.86 MU** under DAC & ID. Out of which **2.05 MU** was in IEX, **4.28 MU** in PXIL and **2.52 MU** in HPX.
- 5.4. In July, 2024, there was real time curtailment of **10.11 MU** under DAC & ID. Out of which **4.34 MU** was in IEX, **3.67 MU** in PXIL and **2.10 MU** in HPX.
- 5.5. The total volume of electricity transacted under DAC & ID under Day Ahead Contingency & Intra Day contracts during July, 2024 and its comparison with June, 2024 and July, 2023 on delivery date basis are shown in Tables- 2A & 2B:

(i) Final Scheduled Volume (MU), July, 2024 vis- a- vis June, 2024 and July, 2023

Exchange	Period	Final Scheduled Volume (MU)		
		Day Ahead Contingency	Intra Day	Total
IEX	July, 2024	355.03	18.85	373.88
	June, 2024	297.75	27.11	324.86
	%Change (Month over Month)	19.24	-30.47	15.09
	July, 2023	734.64	13.47	748.11
	%Change (Year over Year)	-51.67	39.94	-50.02
PXIL	July, 2024	410.60	62.99	473.59
	June, 2024	361.75	36.36	398.11
	%Change (Month over Month)	13.50	73.24	18.96
	July, 2023	368.25	5.12	373.37
	%Change (Year over Year)	11.50	1130.27	26.84

Exchange	Period	Final Scheduled Volume (MU)		
		Day Ahead Contingency	Intra Day	Total
HPX	July, 2024	204.27	19.78	224.05
	June, 2024	265.71	13.57	279.28
	%Change (Month over Month)	-23.12	45.76	-19.78
	July, 2023	634.27	4.75	639.02
	%Change (Year over Year)	-67.79	316.42	-64.94

- : No transaction took place

NA: Not Applicable

Table: 2A

(ii) Wt. Avg. MCP, July, 2024 vis- a- vis June, 2024 and July, 2023

Exchange	Period	Wt. Average MCP (₹/kWh)	
		Day Ahead Contingency	Intra Day
IEX	July, 2024	8.35	10.00
	June, 2024	8.27	10.20
	%Change (Month over Month)	0.97	-1.96
	July, 2023	5.38	9.42
	%Change Year over Year)	55.20	6.16
PXIL	July, 2024	8.23	9.85
	June, 2024	8.40	9.85
	%Change (Month over Month)	-2.02	0.00
	July, 2023	5.71	9.77
	%Change (Year over Year)	44.13	0.82
HPX	July, 2024	8.91	10.00
	June, 2024	9.76	10.00
	%Change (Month over Month)	-8.71	0.00
	July, 2023	5.47	9.26
	%Change Year over Year)	62.89	7.99

- : No transaction took place

NA: Not Applicable

Table: 2B

6. Green Term Ahead Market (GTAM)

The volume of electricity transacted under GTAM was **15.78 MU** at a Wt. Avg. Price of ₹ **4.93/kWh** in July, 2024.

The total volume of electricity transacted in the PXs under GTAM on delivery date basis was **15.78 (7.60 MU in Solar and 8.18 MU in Non-Solar)**. The Comparison of Final Scheduled Volume (FSV) and Wt. Avg. Price of IEX, PXIL and HPX under GTAM for July, 2024 is shown below as **Figure-6, Figure-7 and Figure-8**:

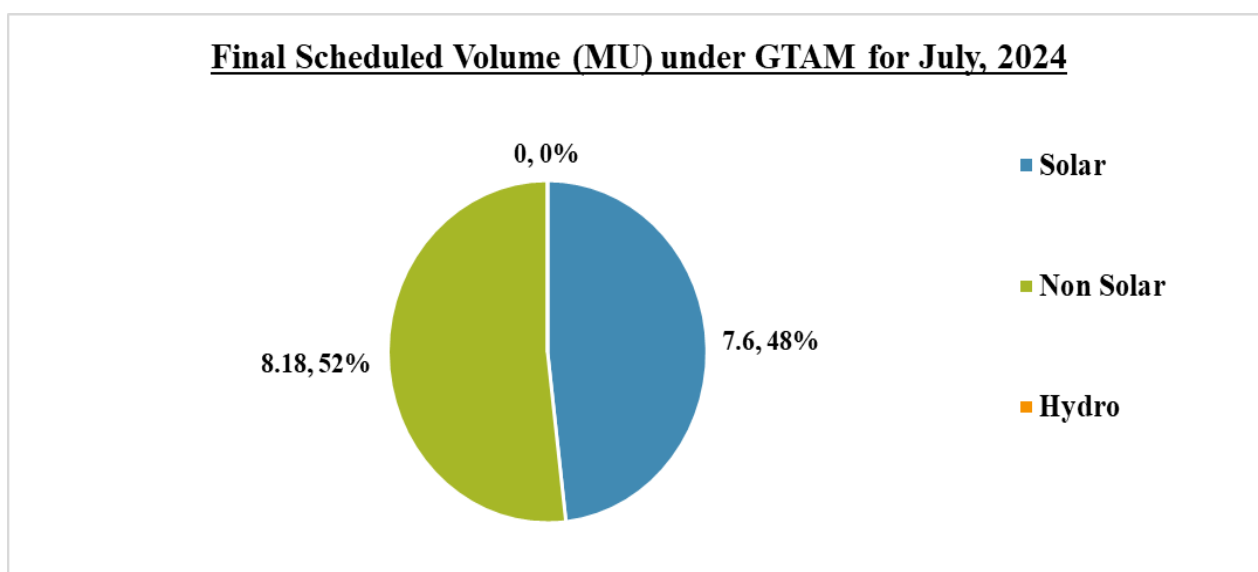


Figure-6

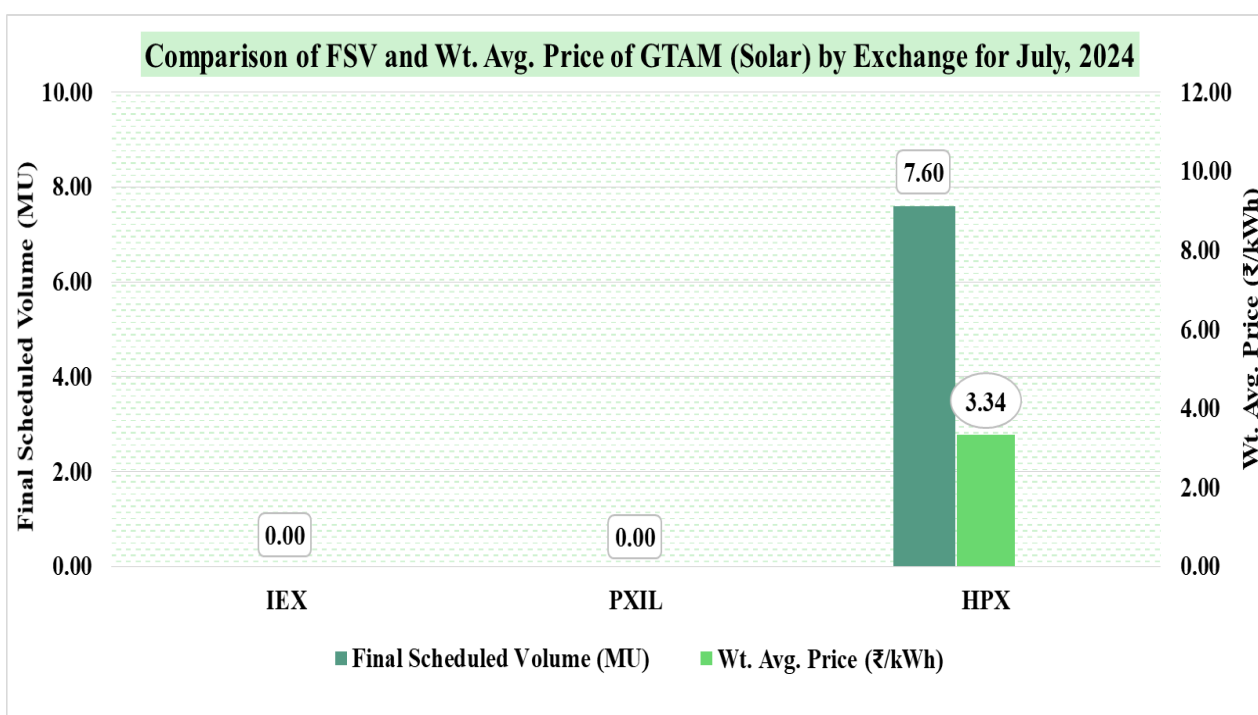


Figure-7

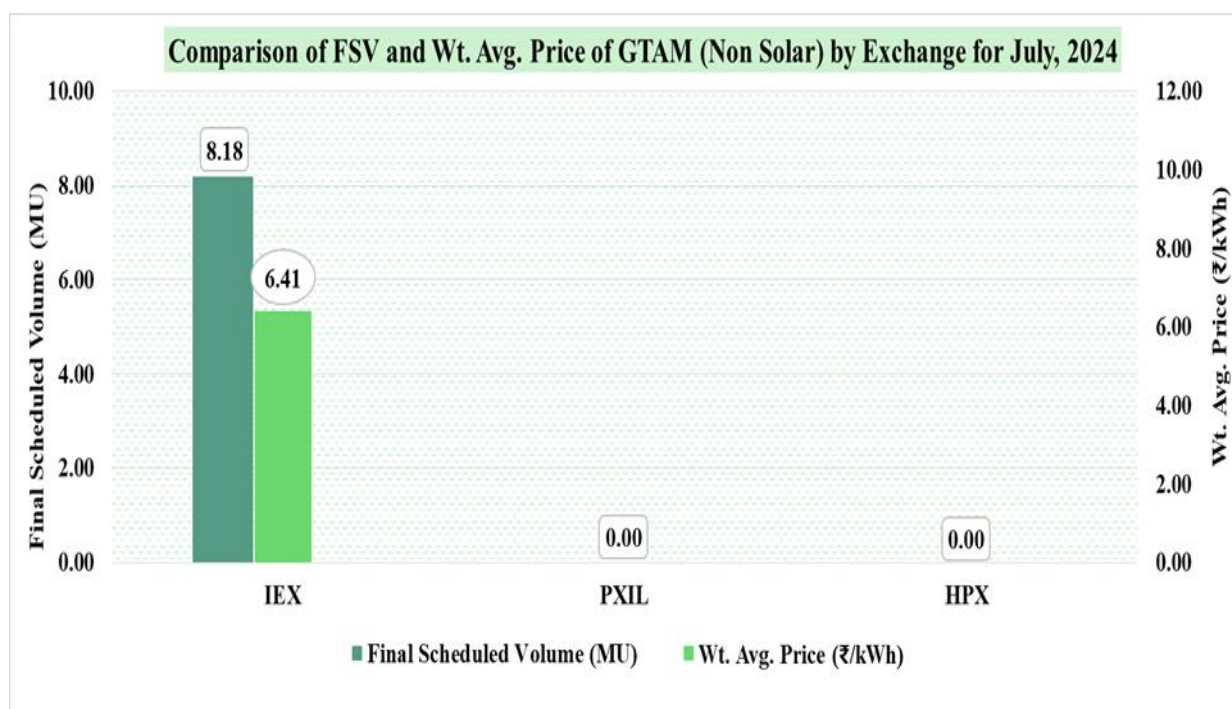


Figure-8

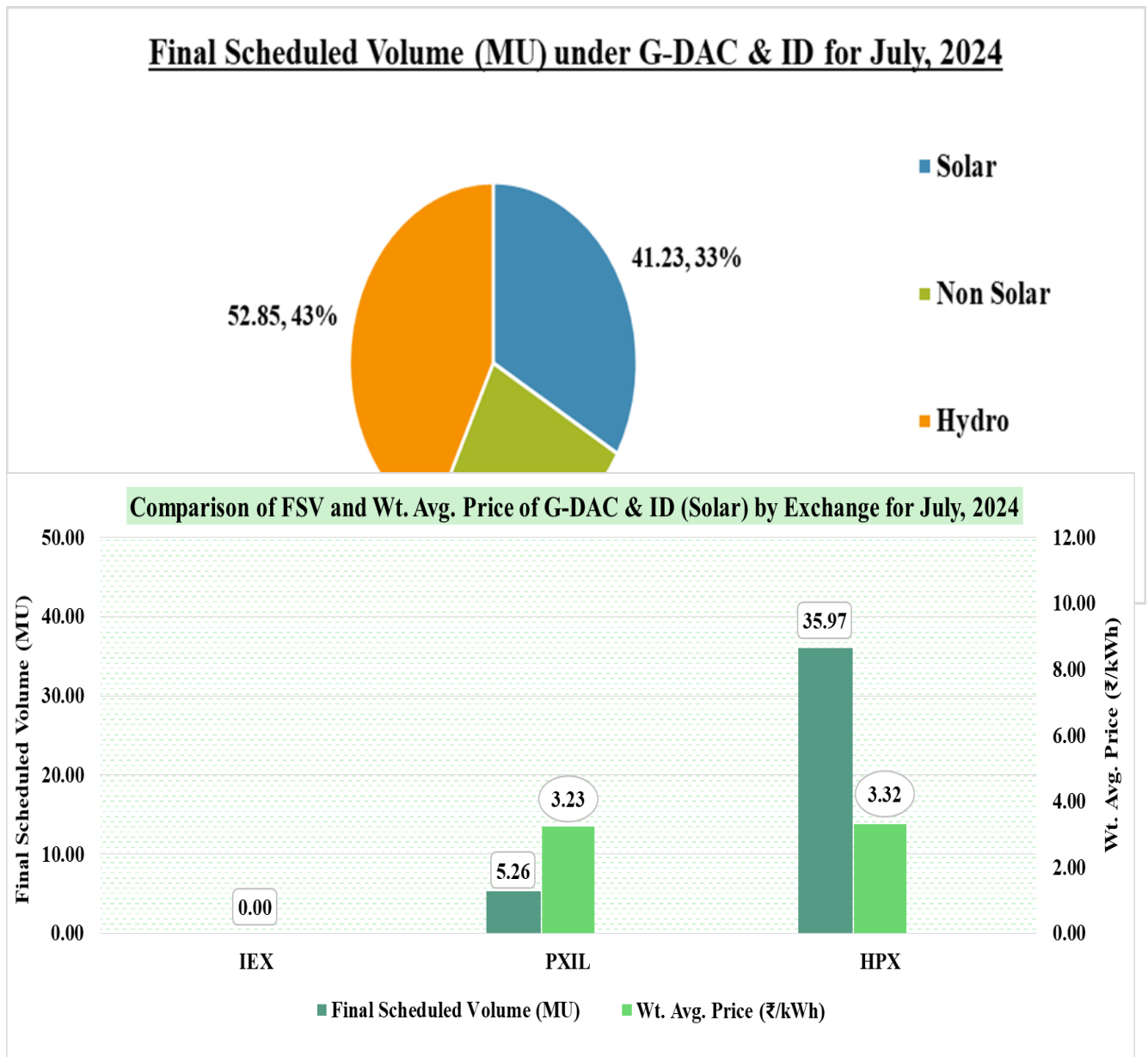
7. Green Day Ahead Contingency & Intra Day (G-DAC & ID)

The volume of electricity transacted under G-DAC & ID was 123.48 MU at a Wt. Avg. Price of ₹ 4.65/kWh in July, 2024.

The total volume of electricity transacted in the IEX, PXIL & HPX under G-DAC & ID on delivery date basis was **123.48 MU** (**41.23 MU** in Solar, **29.40 MU** in Non-Solar and **52.85 MU** in Hydro), respectively. The Comparison of Final Scheduled Volume (FSV) and Wt. Avg. Price of IEX, PXIL and HPX under G-DAC & ID for July, 2024 is shown below as **Figure-9, Figure-10, Figure-11 and Figure-12:**

Figure-9

Figure-10



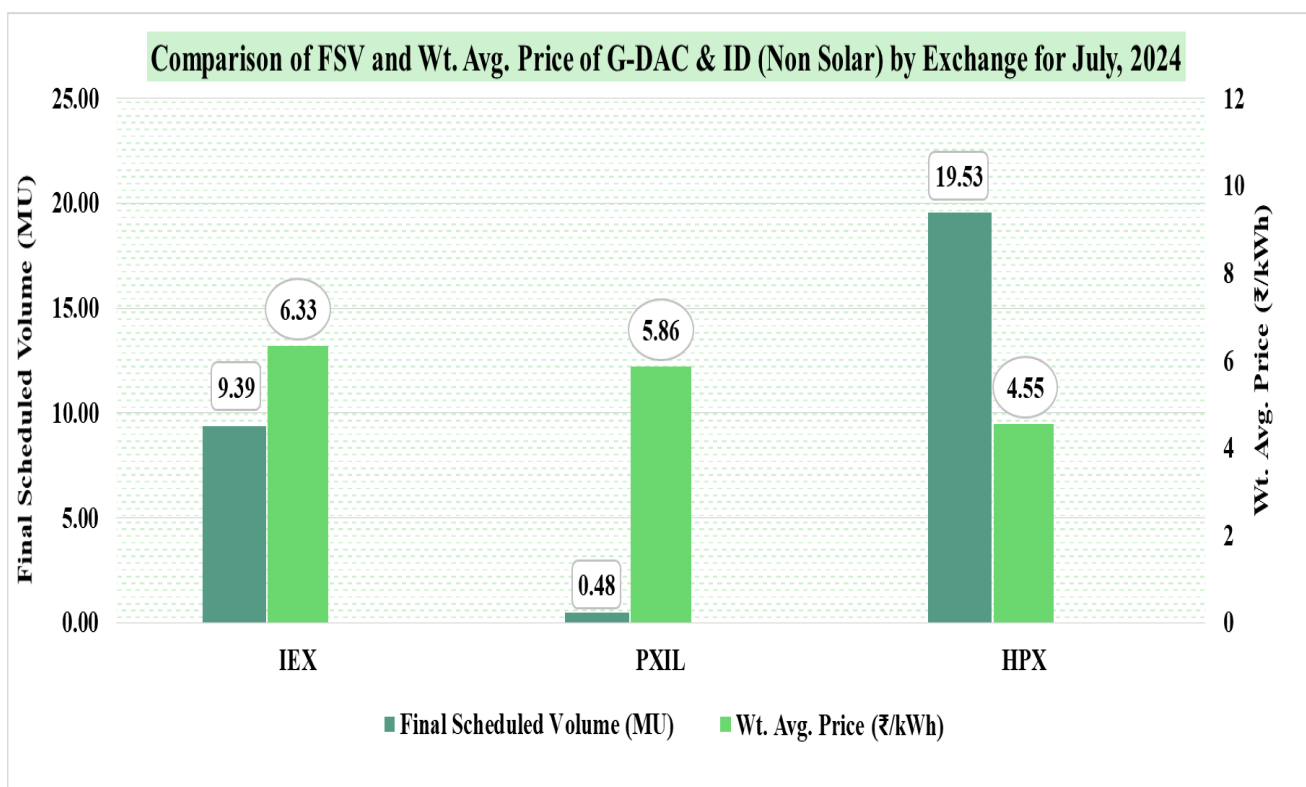


Figure-11

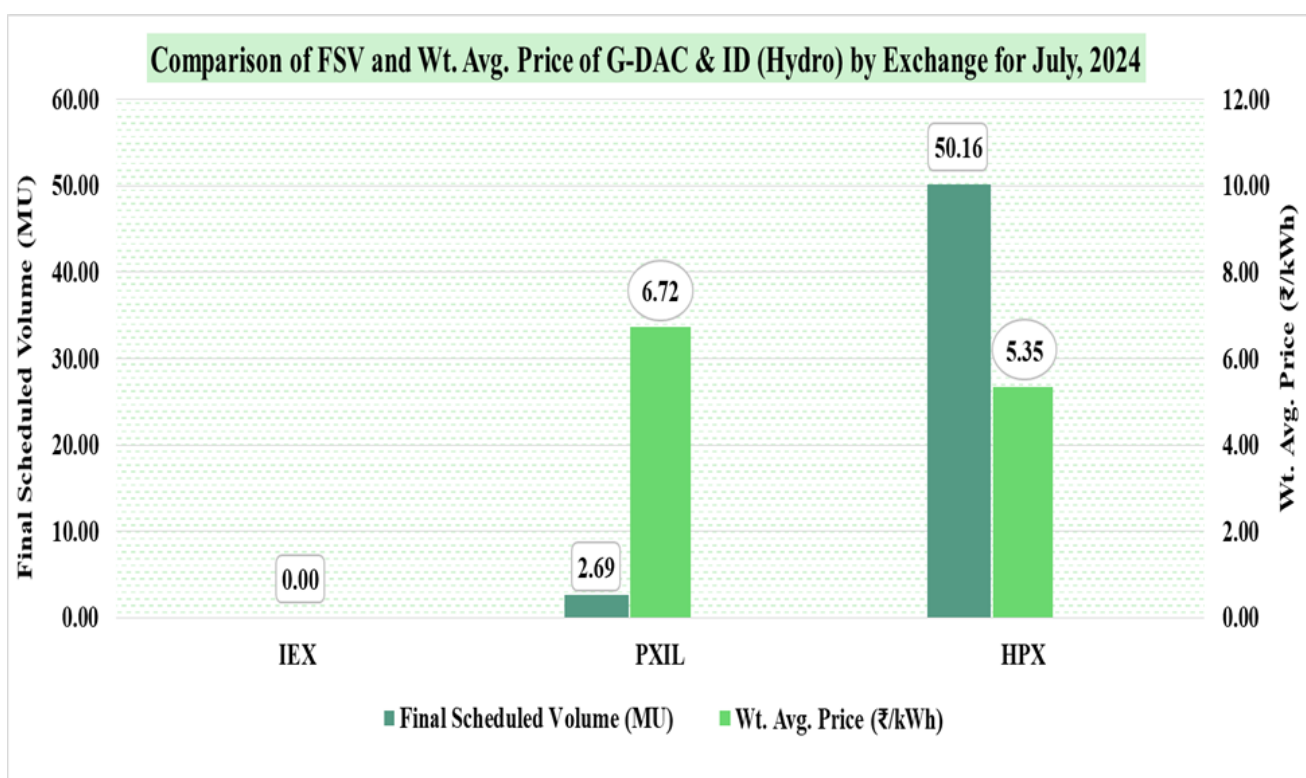


Figure-12

8. Bilateral Transactions:

The total volume of electricity transacted through **bilateral transactions** in July, 2024 was **8,625.65 MU**. The total buy volume of electricity transacted in bilateral market through direct and trader transactions in July, 2024 were **3,117.81 MU** and **5,507.84 MU** respectively. The details of bilateral transactions of Electricity during July, 2024 are shown in table below:

July, 2024	Direct	Traders	Total Bilateral Transaction (MU)
Total	3,117.81	5,507.84	8,625.65
Minimum	0.67	0.29	-
Maximum	836.15	1348.97	-

Table -3A

The region-wise maximum/ minimum volume of electricity transacted bilaterally during July, 2024 are given in table below:

(i) Region-wise Volume:

Region-wise Volume (MU)	ER		WR		NR		SR		NER	
	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader	Direct	Trader
Total	567.08	1098.3	169.21	372.43	2367.30	3640.15	10.94	299.74	3.29	97.17
Minimum	47.19	1.66	5.31	0.29	2.82	15.08	0.67	2.82	1.35	3.32
Maximum	446.22	762.11	147.56	199.08	836.15	1348.97	9.40	296.92	1.94	93.86

Table-3B

8.1. The top 5 buyers on bilateral transaction through direct transactions in July, 2024 were **Haryana, Punjab, Uttar Pradesh, Bihar and Delhi**, which constituted **88.67 %** of the market volume. Whereas **top 5 buyers** on bilateral transaction through traders in July, 2024 were **Haryana, Punjab, Delhi, West Bengal and Uttar Pradesh**, which constituted **79.65 %** of the market volume. [Annexure III]

8.2. The top 5 sellers on bilateral transaction through direct transactions in July, 2024 were **IGSTPS JHAJJAR, Karnataka, Rajasthan, Madhya Pradesh and Tamil Nadu**, which constituted **44.84 %** of the market volume. Whereas **top 5 sellers** on bilateral transaction through traders in July, 2024 were **Himachal Pradesh, Adani Power Limited-Raipur TPP, Maharashtra, IL&FS TAMIL NADU POWER COMPANY LIMITED and Kerala**, which constituted **42.83 %** of the market volume. [Annexure III]

8.3. Deviation Volume -The volume of Deviation observed in July, 2024 in import and export were **2,994.20 MU** and **2,955.96 MU** respectively. The total volume of Deviation observed in July, 2024 can be taken as **2,975.08 MU**.

8.4. A comparison of volume of electricity transacted through the Power Exchanges together under DAM, GDAM, HP-DAM, RTM, TAM, HP-TAM, DAC & ID, HP-DAC & ID, GTAM and G-DAC & ID (on delivery date basis) with Bilateral transactions and Deviation in July, 2024 is shown in **Figure 13**:

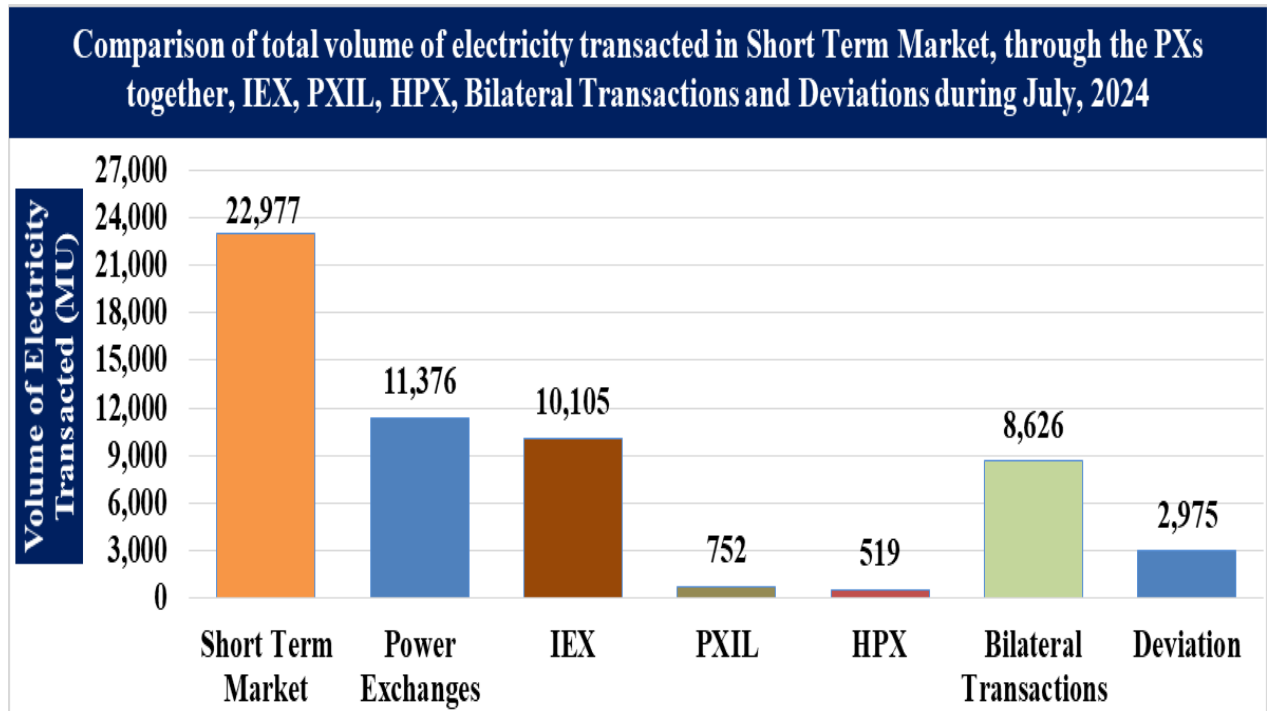
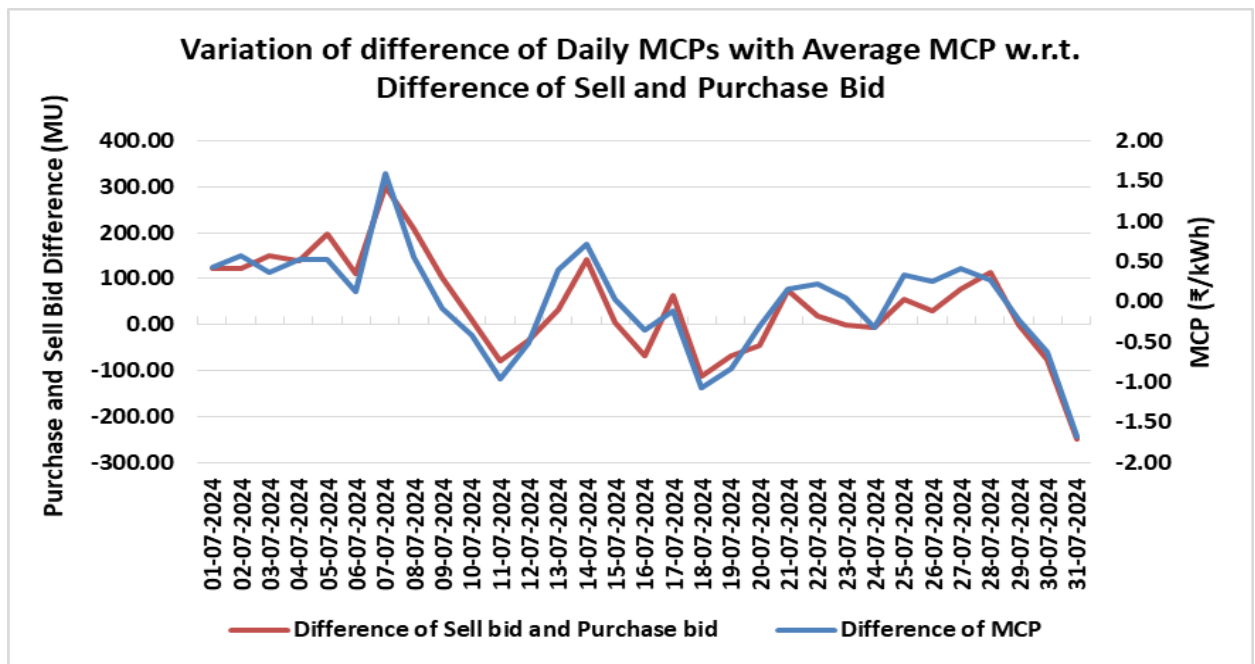


Figure -13

9. Analysis of movement of prices observed under DAM during July, 2024

A regression analysis has been carried out on the Day Ahead Market data taken from IEX website. Also, data was plotted in various graphs to observe patterns for each day of the July, 2024 month. The observations made are as under:

- 9.1. In order to find out the determinants which are responsible for the Daily Wt. Avg. MCP, a regression analysis has been carried out where the Daily Wt. Avg. MCP is the dependent variable and the independent variables are peak demand, total purchase bid, total sell bid, coal generation, hydro generation, wind generation and solar generation.
- 9.2. A double log function was used so that elasticity of Daily Wt. Avg. MCP could be read off from the coefficients of independent variables. The regression analysis revealed that the most significant variable was the Peak Demand. Further, the regression analysis revealed that the elasticity of the Daily Wt. Avg. MCP with respect Peak Demand was **3.39** in July, 2024.
- 9.3. The variation of difference of Daily Wt. Avg. MCPs with Wt. Avg. MCP w.r.t Difference of Sell and Purchase bid is Shown below:



- 9.4. The same relationship is visible from the analysis carried out from the plot in **Figure – 14:**

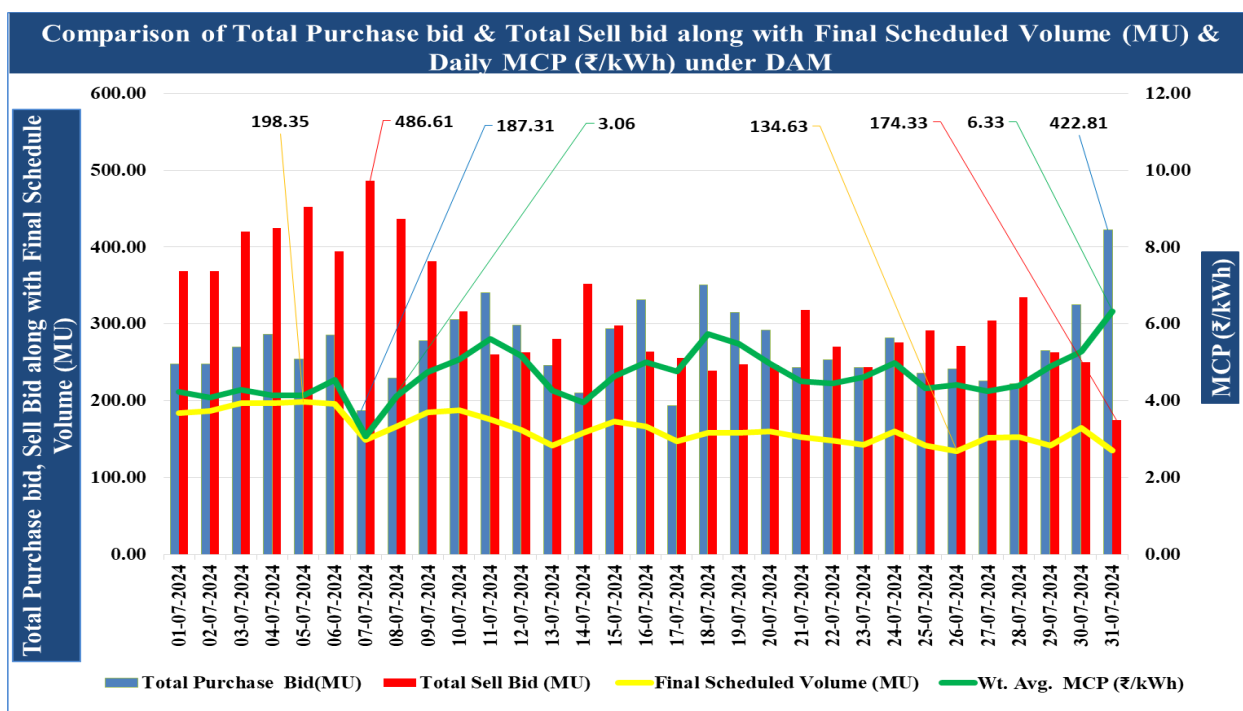


Figure – 14

9.5. Invariably, the Final Scheduled Volume (MU) and the Daily Wt. Avg. MCP (₹/kWh) showed decreasing trend on Sundays and increasing trend on Mondays as the demand of electricity in the country was less on Sundays as compared to other days of week. However, during the month of July, 2024, it is observed that on second Sunday (14th July, 2024), FSV showed increasing trend in comparison to second Saturday (13th July, 2024), on fifth Monday (29th July, 2024), FSV showed decreasing trend in comparison to fourth Sunday (28th July, 2024). The detailed analysis on this is given at **Appendix-I**.

9.6. A comparison of maximum, minimum, daily, evening time MCP is shown in **Figure-15**. The same are also tabulated in **Annexure-I**

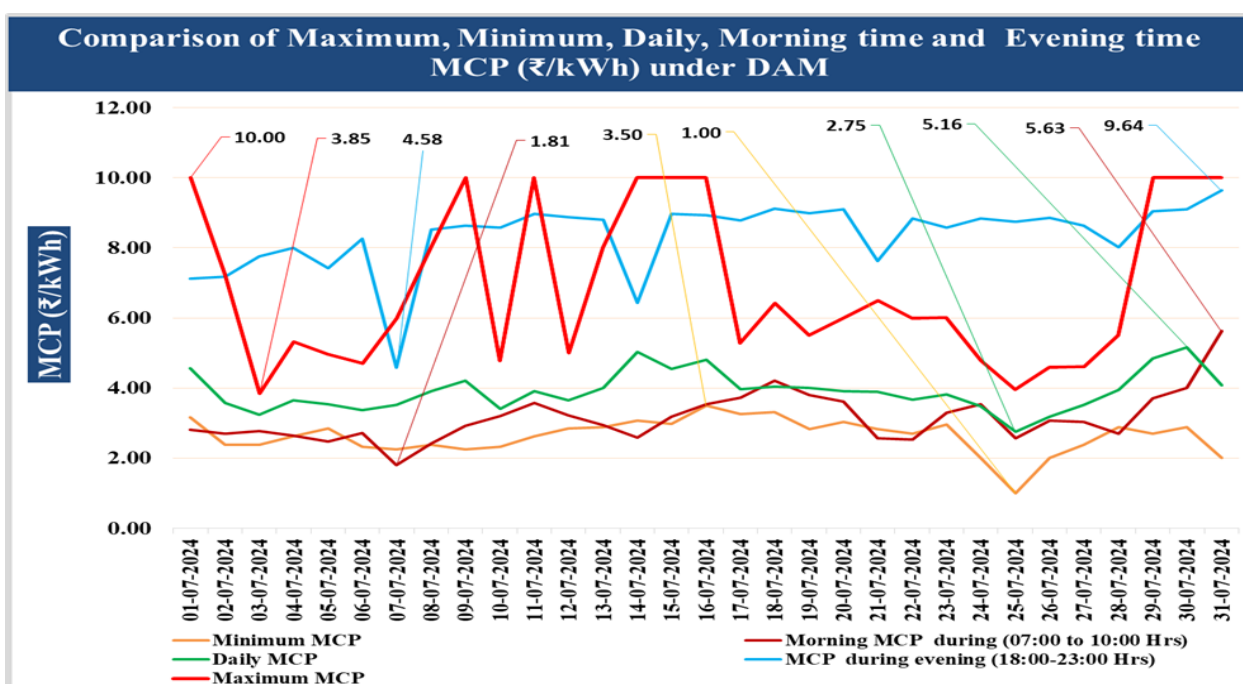


Figure-15

9.7. The Market Clearing Price duration curves for time block wise MCP for the month of July, 2024 is shown in **Figure-16**.

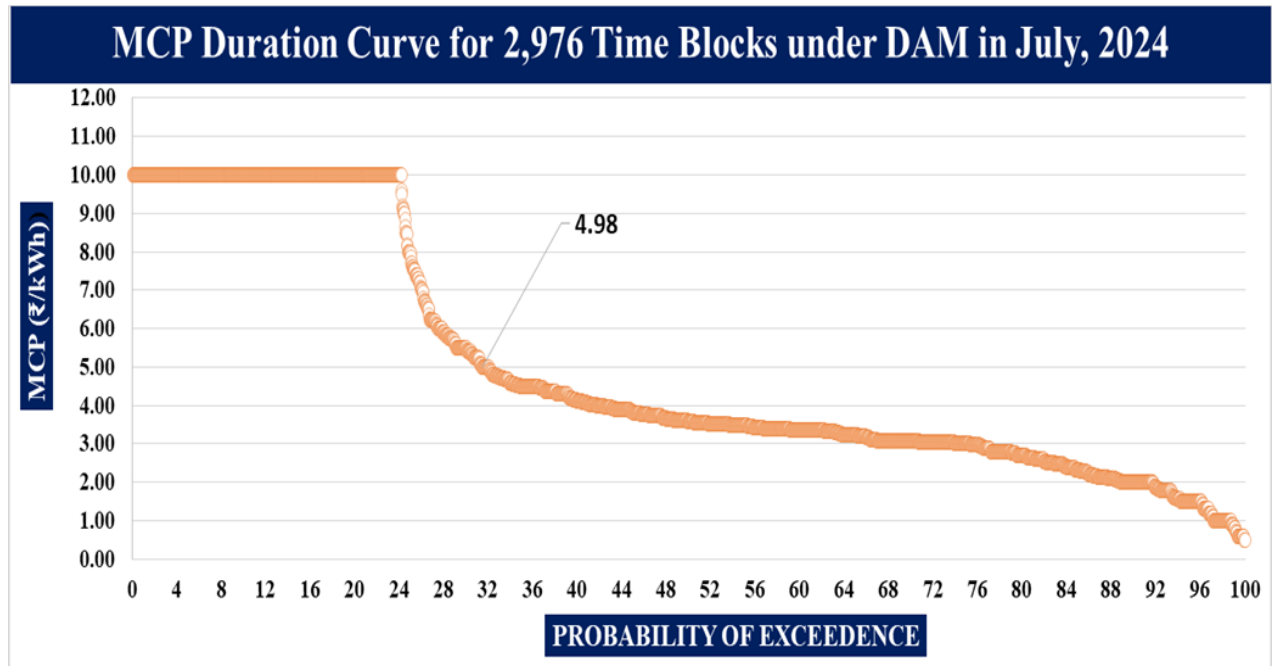


Figure – 16

9.8. It can be seen in figure 16 above that in the MCP duration curve of July, 2024, for 32.00 % of the time MCP was above Wt. Avg. MCP of the month (i.e. ₹ 4.98/kWh) and almost 68.00 % of the time MCP was below the Wt. Avg. MCP of the month.

9.9. The Purchase Bids and the MCP discovered in each of the 15-minute time block during the month almost followed the same trend [Annexure V]. This is also corroborated with the outcome of regression analysis mentioned at **para 9.1 and 9.2 above**.

9.10. In July, 2024, the maximum FSV occurred mostly during **the time period 07-08 Hrs** (on 16 no. of days). Whereas, the maximum MCP occurred mostly during **the time period 00-01 Hrs** (on 23 no. of days). Similarly, the minimum FSV occurred mostly during **the time period 20-22 Hrs** (on 13 no. of days). Whereas, the minimum MCP occurred mostly during **the time period 13-14 Hrs** (on 24 no. of days). [Annexure VI]

9.11. In July, 2024, there was congestion of **64.90 MU** in IEX and no transaction of electricity took place in PXIL & HPX. Further, in June, 2024, there was congestion of **158.65 MU** in IEX and no congestion in PXIL & and no transaction of electricity took place in HPX. Further, in July, 2023, there was no congestion in IEX and no transaction of electricity took place in PXIL & HPX.

9.12. In July, 2024, there was **no** real time curtailment in IEX and no transaction of electricity took place in PXIL & HPX. Further, in June, 2024, there was **no** real time curtailment in IEX and no congestion in PXIL & and no transaction of electricity took place in HPX. Further in July, 2023, there was **no** real time curtailment in IEX and no transaction of electricity took place in PXIL & HPX.

- 9.13.** The **top 10 sellers** on the power exchanges under Day Ahead Market (**DAM**) in July, 2024 were **Karnataka, NVVN (SNA) – NEA, Jindal Power Ltd. Stg-II, Uttar Pradesh, Delhi, Odisha, Assam, Himachal Pradesh, Jindal Power** and **MAHAN ENERGEN LIMITED U#1**, which constituted **47.10 %** of the market volume. [**Annexure VII**]
- 9.14.** The **top 10 buyers** on the power exchanges under Day Ahead Market (**DAM**) in July, 2024 were **Telangana, Gujarat, Punjab, Rajasthan, West Bengal, Uttar Pradesh, Daman & Diu - Dadra & Nagar Haveli, Tamil Nadu, Andhra Pradesh** and **Haryana**, which constituted **87.62 %** of the market volume. [**Annexure VII**]
- 9.15.** The total volume of electricity purchased by Discoms/Licensees under DAM in July, 2024 was **5,039.47 MU**, which constituted **99.26 %** of total volume of electricity purchased on the power exchanges.
- 9.16.** Similarly, the total volume of electricity sold by Discoms/Licensees under DAM in July, 2024 was **2,271.03 MU**, which constituted **44.73 %** of total volume of electricity sold on the power exchanges.

10. Analysis of movement of prices observed under Real Time Market (RTM) transactions in July, 2024

- 10.1. Similar to the regression analysis carried out for Day Ahead Market, the regression analysis for Real Time Market was also done. The regression analysis revealed that the significant variable was the Peak Demand. Further, the regression analysis revealed that the elasticity of the Daily Wt. Avg. MCP with respect to Peak Demand was **7.44** in July, 2024.
- 10.2. The Purchase Bids and the MCP discovered in each of the 15-minute time block during the month almost followed the same trend [**Annexure IX**]. This is also corroborated with the outcome of regression analysis mentioned at **para 10.1 above**.
- 10.3. The Total Purchase Bid, Total Sell Bid, Daily Wt. Avg. MCP and FSV are shown in **Figure-17** below:

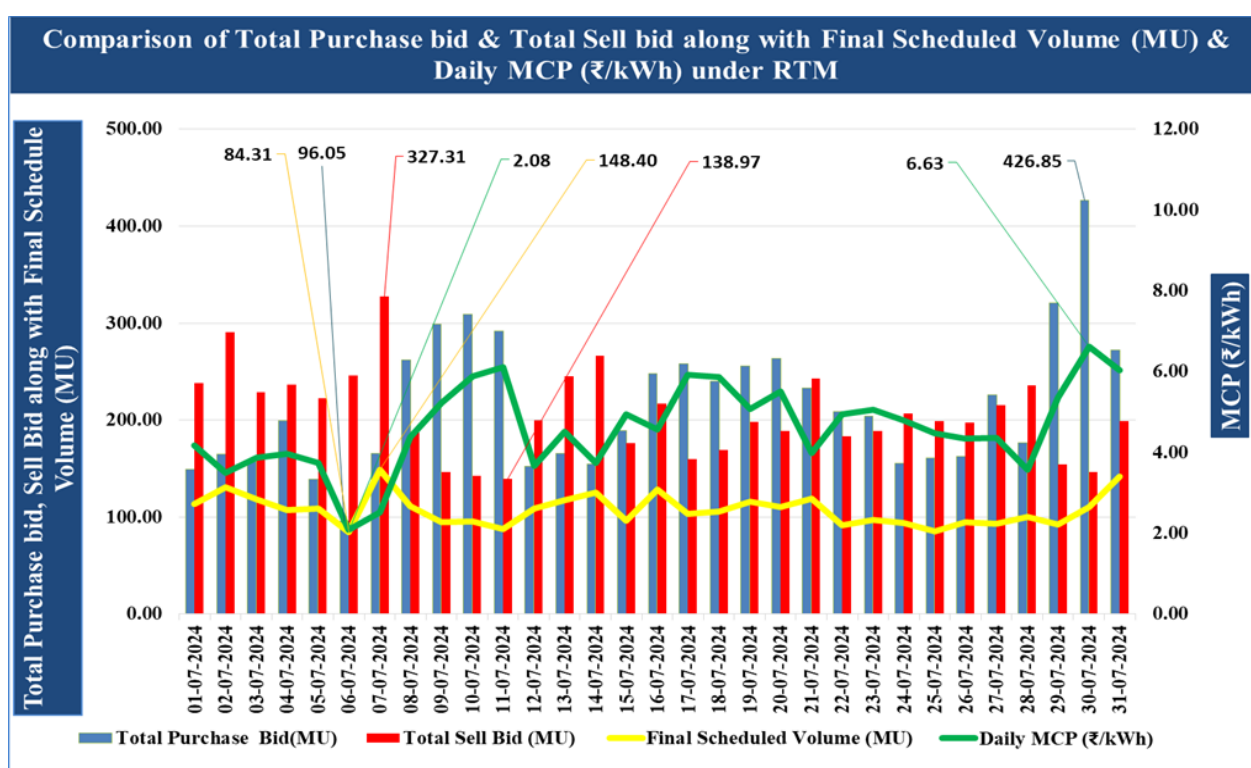


Figure-17

- 10.4. A comparison of maximum, minimum, daily, evening time MCP is shown in **Figure-18**. The same are also tabulated in **Annexure-VIII**.

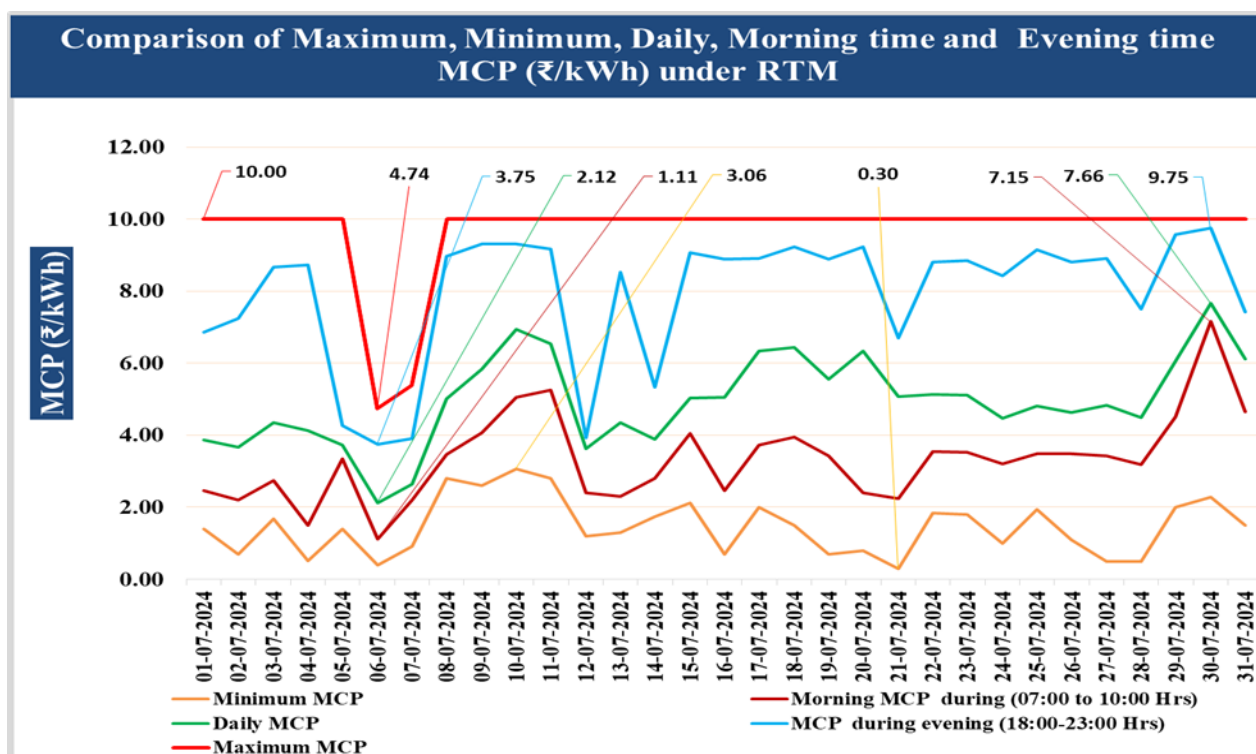


Figure-18

10.5. The Market Clearing Price duration curves for time block wise MCP for the month of July, 2024 is shown in **Figure-19**.

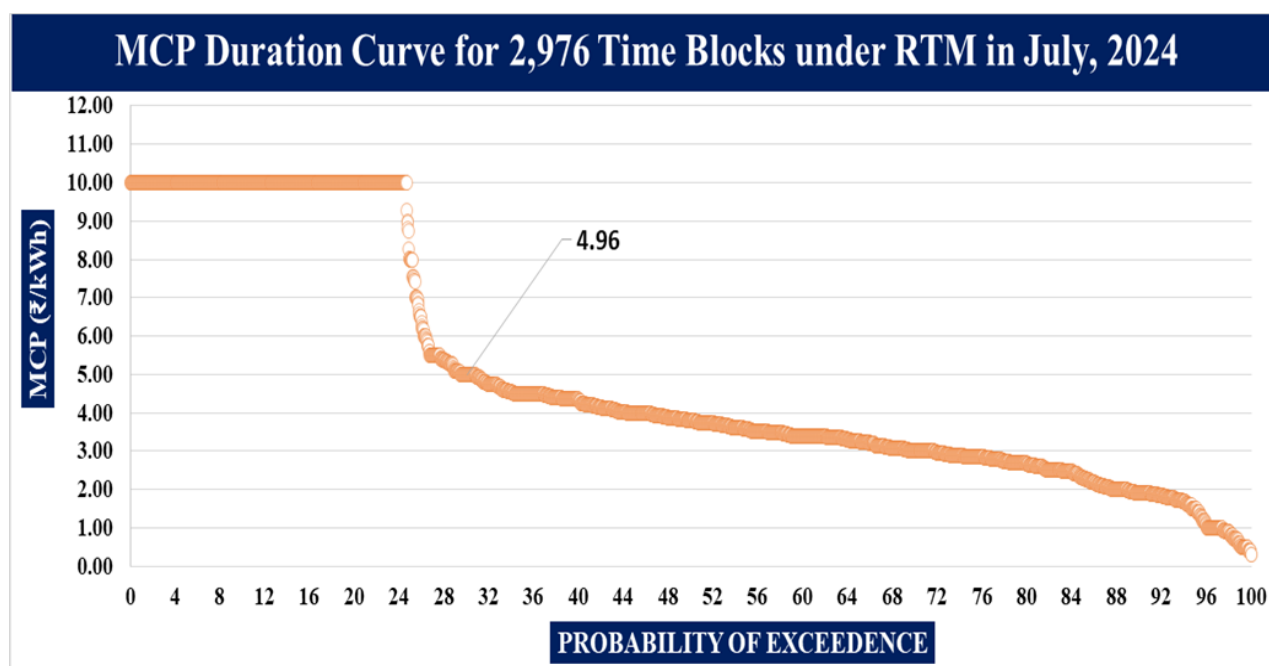


Figure-19

10.6. It can be seen in figure 19 above that in the MCP duration curve of July, 2024, for 30.00 % of the time the MCP was above the Wt. Avg. MCP of the month (i.e. ₹ 4.96/kWh) and for 70.00 % of the time the MCP was below the Wt. Avg. MCP of the month.

- 10.7.** In July, 2024, the maximum FSV occurred mostly during the **time period 14-15 Hrs** (on 9 no. of days). Whereas, the maximum MCP also occurred mostly during the **time period 00-01 Hrs** (on 18 no. of days). Similarly, the minimum FSV occurred mostly during the **time period 22-24 Hrs** (on 9 no. of days). Whereas, the minimum MCP occurred mostly during the **time period 13-14 Hrs** (on 19 no. of days). **[Annexure X]**
- 10.8.** There was **no** real time curtailment in IEX, PXIL & HPX under Real Time Market (RTM) during July, 2024. Further, in June, 2024 **no** real time curtailment in IEX and PXIL & no transaction took place in HPX. Similarly, in July, 2023, there was **no** real time curtailment in IEX while no transaction took place in PXIL and HPX.
- 10.9.** In July, 2024, there was congestion of **77.85 MU** in IEX & **2.22 MU** in HPX and no congestion in PXIL. Further, in June, 2024, there was congestion of **116.03 MU** in IEX and no congestion in PXIL & no transaction took place in HPX. Similarly, in July, 2023, there was congestion **0.78 MU** in IEX and no transaction happened in PXIL & HPX.
- 10.10.** The **top 10 sellers** on the power exchanges under Real Time Market (**RTM**) in July, 2024 were **Tamil Nadu, Karnataka, Bihar, Delhi, Odisha, Haryana, Andhra Pradesh, Uttar Pradesh, Chhattisgarh** and **Madhya Pradesh**, which constituted **55.46 %** of the market volume. **[Annexure XI]**
- 10.11.** The **top 10 buyers** on the power exchanges under Real Time Market (**RTM**) in July, 2024 were **Punjab, Rajasthan, Telangana, West Bengal, Uttar Pradesh, Maharashtra, Kerala, Bihar, Tamil Nadu** and **Gujarat**, which constituted **76.23 %** of the market volume. **[Annexure XI]**
- 10.12.** The total volume of electricity purchased by Discoms/Licensees under RTM in July, 2024 was **3,235.94 MU**, which constituted **98.40 %** of total volume of electricity purchased on the power exchanges.
- 10.13.** Similarly, the total volume of electricity sold by Discoms/Licensees under RTM in July, 2024 was **2,445.92 MU**, which constituted **74.38 %** of total volume of electricity sold on the power exchanges.

-
- Source DAM, GDAM, TAM, GTAM and RTM data: IEX, PXIL and HPX
 - Source Entity wise sale and purchase on PXs data: NLDC
 - Source Total Energy supplied: CEA
 - Source Generation & other data for Regression: NLDC and IEX

Final Scheduled Volume, Wt. Avg. MCP and Real-Time Curtailment under Day Ahead Market (DAM) for the months of April, 2024 to March, 2025 of IEX, PXIL and HPX.										
Quarter	Months	Final Scheduled Volume (MU)			Market Clearing Price (₹/kWh)			Real Time Curtailment (MU)		
		IEX	PXIL	HPX	IEX	PXIL	HPX	IEX	PXIL	HPX
Quarter -I	April, 2024	4,131.42	3.85	0	4.65	10.00	-	0	0	0
	May, 2024	4,315.58	0	0.10	4.76	-	10.00	0	0	0
	June, 2024	4,836.23	0	0	4.84	-	-	0	0	0
Total Quarter -I	April - June, 2024	13,283.23	3.85	0.10	4.75	10.00	10.00	0	0	0
Quarter -II	July, 2024	5,070.64	0	0	4.64	-	-	0	0	0
	August, 2024									
	September, 2024									
Total Quarter -II	July - September, 2024	5,070.64	0	0	4.64	-	-	0	0	0
Total April, 2024 – March, 2025		18,353.87	3.85	0.10	4.72	10.00	10.00	0.00	0.00	0.00

Annexure-II

Final Scheduled Volume under Term Ahead Market (TAM) for the months of April, 2024 to March, 2025 of IEX, PXIL and HPX (Delivery date basis)					
Quarter	Months	Final Scheduled Volume (MU)			
		IEX	PXIL	HPX	Total
Quarter -I	April, 2024	1141.57	1521.03	897.57	3560.17
	May, 2024	911.93	1003.55	964.68	2880.16
	June, 2024	1054.97	564.87	396.82	2016.66
Total Quarter – I	April - June, 2024	3,108.47	3,089.45	2,259.07	8,456.99
Quarter -II	July, 2024	337.92	253.37	177.63	768.92
	August, 2024				
	September, 2024				
Total Quarter – II	July - September, 2024	337.92	253.37	177.63	768.92
Total April, 2024 – March, 2025		3,446.39	3,342.82	2,436.70	9,225.91

Top Five Entities (Buyers and Sellers) in Bilateral transactions in July, 2024

(i) Top five Buyers in Bilateral transactions

Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
Haryana	836.15	26.82%	Haryana	1348.97	24.49%
Punjab	655.59	21.03%	Punjab	983.09	17.85%
Uttar Pradesh	509.02	16.33%	Delhi	960.17	17.43%
Bihar	446.22	14.31%	West Bengal	762.11	13.84%
Delhi	317.61	10.19%	Uttar Pradesh	332.85	6.04%
Total Volume	2,764.59	88.67%	Total Volume	4,387.19	79.85%
Total Volume in Bilateral	3,117.81		Total Volume in Bilateral	5,507.84	

(ii) Top five Sellers in Bilateral transactions

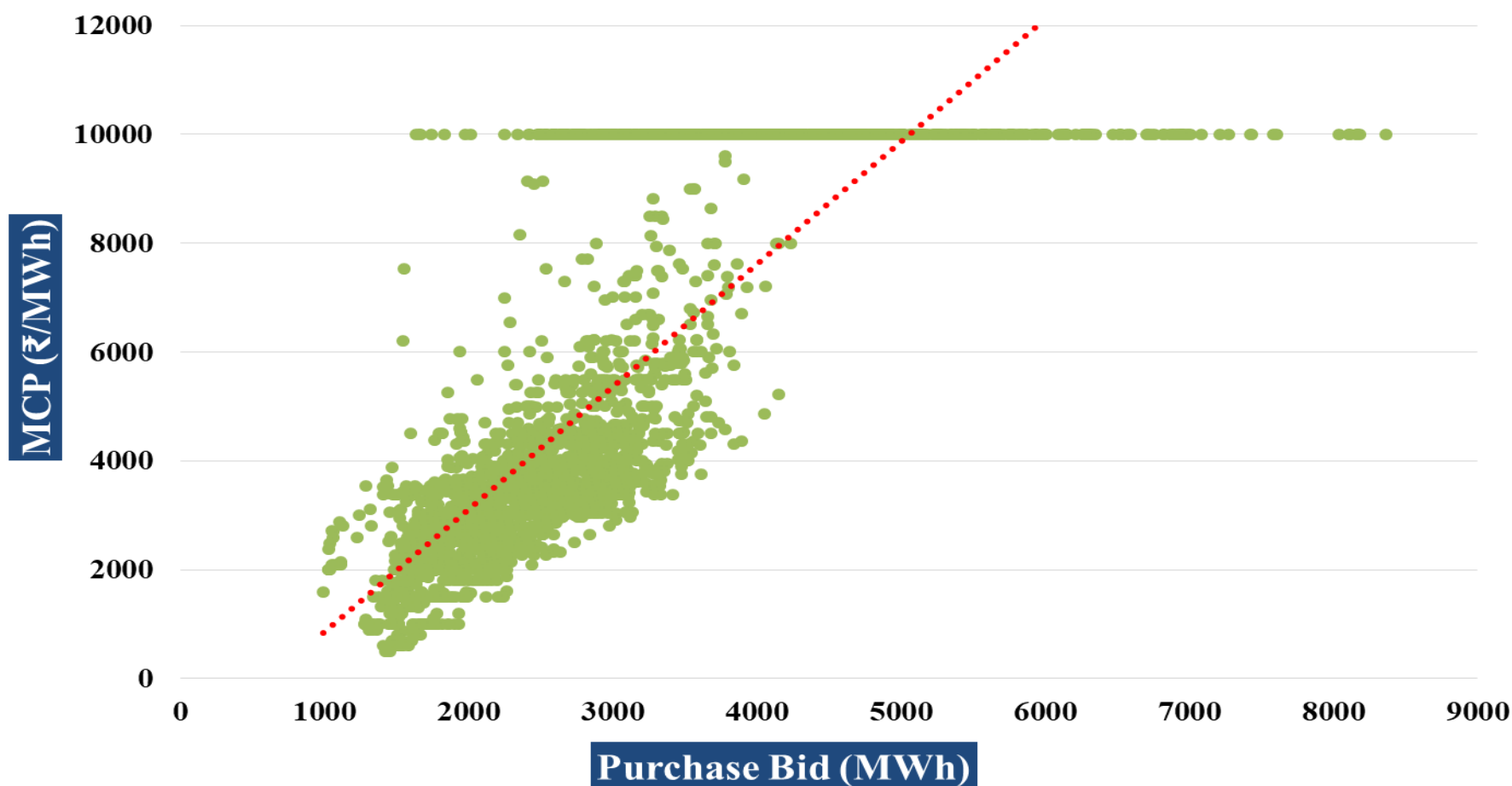
Entity Name	Direct		Entity Name	Through Traders	
	(MU)	Percent		(MU)	Percent
IGSTPS JHAJJAR	333.53	10.74%	Himachal Pradesh	725.34	13.17%
Karnataka	293.20	9.44%	Adani Power Limited- Raipur TPP	539.81	9.80%
Rajasthan	290.17	9.34%	Maharashtra	436.16	7.92%
Madhya Pradesh	269.16	8.67%	IL&FS TAMIL NADU POWER COMPANY LIMITED	407.43	7.40%
Tamil Nadu	206.55	6.65%	Kerala	250.40	4.55%
Total Volume	1,392.60	44.84%	Total Volume	2,359.14	42.83%
Total Volume in Bilateral	3,117.81		Total Volume in Bilateral	5,507.84	

Evening, Day, Night, Morning, Maximum, Minimum, Wt. Avg. MCP (₹/kWh) and Final Scheduled Volume (MU) under DAM

Date	Morning MCP (07:00-10:00)	Day MCP (11:00-17:00)	Evening MCP (18:00- 23:00)	Night MCP (01:00- 06:00, 23:00-24:00)	Maximum MCP	Minimum MCP	Wt. Avg. MCP	Final Scheduled Volume (MU)
01-07-2024	2.80	2.46	7.13	4.42	10.00	3.16	4.57	136.25
02-07-2024	2.69	2.34	7.18	4.24	7.26	2.38	3.58	120.14
03-07-2024	2.77	2.26	7.75	4.58	3.85	2.37	3.24	138.02
04-07-2024	2.64	2.34	8.00	4.57	5.31	2.63	3.65	139.70
05-07-2024	2.48	2.45	7.42	4.63	4.96	2.84	3.54	123.78
06-07-2024	2.71	2.39	8.26	5.44	4.70	2.32	3.37	136.48
07-07-2024	1.81	1.33	4.58	3.75	6.00	2.25	3.51	150.55
08-07-2024	2.41	1.98	8.52	4.07	8.00	2.37	3.91	180.07
09-07-2024	2.93	2.29	8.63	4.99	10.00	2.25	4.21	174.75
10-07-2024	3.21	2.96	8.58	5.54	4.77	2.32	3.41	160.58
11-07-2024	3.57	3.22	8.97	8.02	10.00	2.62	3.90	170.16
12-07-2024	3.23	3.23	8.88	6.81	5.00	2.84	3.66	158.06
13-07-2024	2.94	2.58	8.79	5.46	8.00	2.88	4.01	158.14
14-07-2024	2.59	1.67	6.44	5.03	10.00	3.07	5.03	157.92
15-07-2024	3.19	3.14	8.97	5.11	10.00	2.98	4.55	167.15
16-07-2024	3.54	3.59	8.92	6.21	10.00	3.50	4.80	164.73
17-07-2024	3.72	2.62	8.78	6.03	5.29	3.26	3.96	151.47
18-07-2024	4.22	3.65	9.12	8.94	6.43	3.32	4.03	138.61
19-07-2024	3.79	3.26	8.98	8.30	5.50	2.83	4.01	155.85
20-07-2024	3.62	2.78	9.10	6.74	6.00	3.04	3.92	153.50
21-07-2024	2.57	0.80	7.63	7.16	6.50	2.83	3.90	168.67
22-07-2024	2.53	2.17	8.84	5.72	6.00	2.70	3.67	163.71
23-07-2024	3.29	1.97	8.57	6.11	6.00	2.95	3.82	164.08
24-07-2024	3.54	2.70	8.84	6.28	4.79	2.00	3.49	165.77
25-07-2024	2.56	2.27	8.74	4.76	3.95	1.00	2.75	122.59
26-07-2024	3.06	2.07	8.85	5.15	4.59	2.00	3.19	135.43
27-07-2024	3.03	2.05	8.63	4.02	4.60	2.38	3.51	133.57
28-07-2024	2.69	1.18	8.01	5.24	5.50	2.89	3.95	147.32
29-07-2024	3.71	2.76	9.03	5.10	10.00	2.70	4.84	136.33
30-07-2024	4.01	3.19	9.10	6.84	10.00	2.89	5.16	151.71
31-07-2024	5.63	3.60	9.64	9.50	10.00	2.00	4.08	133.51
Maximum	5.63	3.65	9.64	9.50	10.00	3.50	5.16	180.07
Minimum	1.81	0.80	4.58	3.75	3.85	1.00	2.75	120.14
Average	3.14	2.49	8.35	5.77	6.87	2.63	3.91	150.28

MCP: Market Clearing Price (₹/kWh)**FSV: Final Scheduled Volume (MU)**

Comparison of MCP w.r.t. Purchase Bid for 2,976 Time Blocks during the month of July, 2024 under DAM



Time Blocks during the Month [96 time blocks in a day x 31 days = 2,976]

Annexure-VI**Maximum Final Schedule Volume (FSV), Minimum FSV, Maximum Market Clearing Price (MCP) and Minimum MCP under DAM**

Date	Max. FSV (MU)		Max. MCP (₹/kWh)		Min FSV (MU)		Min. MCP (₹/kWh)	
	Time Block	Value	Time Block	Value	Time Block	Value	Time Block	Value
01-07-2024	20:00 - 20:15	2.37	21:00 - 21:15	10.00	03:00 - 03:15	1.64	13:00 - 13:15	2.00
02-07-2024	07:30 - 07:45	2.27	21:00 - 21:15	10.00	03:30 - 03:45	1.66	13:00 - 13:15	1.50
03-07-2024	07:00 - 07:15	2.59	20:15 - 20:30	10.00	13:30 - 13:45	1.65	13:30 - 13:45	1.50
04-07-2024	06:45 - 07:00	2.71	20:00 - 20:15	10.00	22:15 - 22:30	1.61	12:30 - 12:45	1.50
05-07-2024	16:15 - 16:30	2.49	20:45 - 21:00	10.00	03:00 - 03:15	1.85	12:15 - 12:30	2.00
06-07-2024	07:15 - 07:30	2.83	00:00 - 00:15	10.00	22:45 - 23:00	1.43	13:15 - 13:30	1.58
07-07-2024	23:15 - 23:30	2.02	22:45 - 23:00	7.30	13:15 - 13:30	1.26	11:00 - 11:15	0.90
08-07-2024	07:00 - 07:15	2.25	19:15 - 19:30	10.00	13:30 - 13:45	1.37	13:15 - 13:30	1.20
09-07-2024	07:00 - 07:15	2.84	00:00 - 00:15	10.00	13:30 - 13:45	1.35	13:15 - 13:30	1.33
10-07-2024	06:30 - 06:45	2.51	00:00 - 00:15	10.00	21:45 - 22:00	1.50	13:15 - 13:30	2.01
11-07-2024	07:45 - 08:00	2.62	00:00 - 00:15	10.00	21:15 - 21:30	1.02	13:15 - 13:30	2.50
12-07-2024	07:00 - 07:15	2.40	00:00 - 00:15	10.00	20:45 - 21:00	0.99	10:00 - 10:15	2.92
13-07-2024	07:00 - 07:15	2.66	00:00 - 00:15	10.00	20:45 - 21:00	0.65	13:00 - 13:15	1.50
14-07-2024	07:00 - 07:15	2.49	21:15 - 21:30	10.00	17:45 - 18:00	1.34	12:00 - 12:15	1.00
15-07-2024	07:15 - 07:30	2.49	00:00 - 00:15	10.00	20:15 - 20:30	0.99	13:15 - 13:30	2.62
16-07-2024	14:45 - 15:00	2.53	00:00 - 00:15	10.00	22:00 - 22:15	0.94	13:00 - 13:15	3.25
17-07-2024	07:15 - 07:30	2.15	00:00 - 00:15	10.00	21:30 - 21:45	0.86	13:00 - 13:15	1.60
18-07-2024	14:45 - 15:00	2.30	00:00 - 00:15	10.00	21:30 - 21:45	0.77	13:15 - 13:30	3.38
19-07-2024	07:30 - 07:45	2.44	00:00 - 00:15	10.00	22:00 - 22:15	0.83	13:00 - 13:15	2.71
20-07-2024	07:00 - 07:15	2.29	00:00 - 00:15	10.00	22:45 - 23:00	0.81	13:45 - 14:00	1.50
21-07-2024	07:30 - 07:45	2.23	00:00 - 00:15	10.00	23:00 - 23:15	1.16	11:30 - 11:45	0.50
22-07-2024	06:45 - 07:00	2.12	00:00 - 00:15	10.00	20:45 - 21:00	0.89	09:45 - 10:00	1.00
23-07-2024	06:30 - 06:45	2.00	00:00 - 00:15	10.00	21:00 - 21:15	1.05	13:00 - 13:15	1.00
24-07-2024	06:45 - 07:00	2.59	00:00 - 00:15	10.00	20:00 - 20:15	1.07	13:30 - 13:45	2.00
25-07-2024	15:45 - 16:00	2.12	00:00 - 00:15	10.00	20:30 - 20:45	1.09	13:15 - 13:30	1.85
26-07-2024	07:15 - 07:30	2.22	00:00 - 00:15	10.00	20:00 - 20:15	0.95	13:00 - 13:15	1.09
27-07-2024	07:15 - 07:30	2.25	00:00 - 00:15	10.00	01:00 - 01:15	1.16	13:15 - 13:30	1.00
28-07-2024	04:00 - 04:15	2.09	00:00 - 00:15	10.00	19:00 - 19:15	1.31	13:30 - 13:45	0.60
29-07-2024	06:45 - 07:00	2.08	00:00 - 00:15	10.00	19:45 - 20:00	0.99	13:30 - 13:45	2.00
30-07-2024	15:30 - 15:45	2.32	00:00 - 00:15	10.00	19:45 - 20:00	1.04	13:15 - 13:30	2.10
31-07-2024	15:30 - 15:45	2.06	00:00 - 00:15	10.00	20:15 - 20:30	0.53	13:30 - 13:45	3.06

MCP: Market Clearing Price (₹/kWh)**FSV: Final Scheduled Volume (MU)**

Sellers and Buyers under Day Ahead Market (DAM) in July, 2024

S. No.	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Percent (%)		(MU)	Percent (%)
1	Karnataka	597.65	11.77%	Telangana	1954.62	38.50%
2	NVVN (SNA) - NEA	334.48	6.59%	Gujarat	528.01	10.40%
3	Jindal Power Ltd. Stg-	248.21	4.89%	Punjab	385.75	7.60%
4	Uttar Pradesh	236.20	4.65%	Rajasthan	312.55	6.16%
5	Delhi	198.23	3.90%	West Bengal	281.61	5.55%
6	Odisha	185.00	3.64%	Uttar Pradesh	260.49	5.13%
7	Assam	171.22	3.37%	Daman & Diu - Dadra &	260.30	5.13%
8	Himachal Pradesh	145.72	2.87%	Tamil Nadu	194.49	3.83%
9	Jindal Power	138.47	2.73%	Andhra Pradesh	154.73	3.05%
10	MAHAN ENERGEN	136.02	2.68%	Haryana	116.14	2.29%
11	Karcham Wangtoo	117.48	2.31%	Chhattisgarh	92.64	1.82%
12	Jaypee Nigrie	113.90	2.24%	Kerala	87.00	1.71%
13	DB Power	105.79	2.08%	Uttarakhand	85.65	1.69%
14	AD Hydro	104.33	2.05%	Maharashtra	76.49	1.51%
15	Adani Power Limited-	99.86	1.97%	Madhya Pradesh	47.00	0.93%
16	Haryana	88.79	1.75%	Himachal Pradesh	38.49	0.76%
17	Chhattisgarh	87.45	1.72%	Karnataka	35.00	0.69%
18	Andhra Pradesh	86.24	1.70%	Odisha	26.57	0.52%
19	Gujarat	85.46	1.68%	Bihar	24.82	0.49%
20	Adani Power Limited	79.49	1.57%	Railways	22.14	0.44%
21	Jindal Steel	66.95	1.32%	Delhi	17.49	0.34%
22	SKS Power	65.06	1.28%	ArcelorMittal Nippon steel	14.57	0.29%
23	Nabinagar Power	64.23	1.27%	Sikkim	10.52	0.21%
24	Madhya Pradesh	61.17	1.20%	Assam	9.81	0.19%
25	Rajasthan	60.17	1.19%	Jharkhand	9.69	0.19%
26	Sembcorp Energy	56.96	1.12%	Goa WR	7.62	0.15%
27	MAHAN ENERGEN	56.90	1.12%	Chandigarh	7.07	0.14%
28	ADANI WIND	47.45	0.93%	Goa SR	6.61	0.13%
29	Maharashtra	45.10	0.89%	Tripura	5.12	0.10%
30	RENEW SURYA	42.84	0.84%	Meghalaya	1.66	0.03%
31	RENEW SURYA	40.47	0.80%	DVC	1.37	0.03%
32	Farakka	39.46	0.78%	BHARAT ALUMINIUM	0.99	0.02%
33	Sainj HEP	38.85	0.77%	Pondicherry	0.13	0.003%
34	Sorang HEP,	38.26	0.75%	Jhabua Power	0.09	0.002%
35	Bihar	38.22	0.75%			
36	Basochhu	38.20	0.75%			
37	Tamil Nadu	36.78	0.72%			
38	Talcher	36.40	0.72%			
39	ACBIL	36.14	0.71%			
40	Shree Cement	35.26	0.69%			
41	ADANI	34.77	0.68%			
42	IND BARATH	33.29	0.66%			
43	Renew Surya Ravi	31.37	0.62%			
44	RKM Power	28.95	0.57%			
45	Adept Renewable	28.58	0.56%			
46	NEA-NR	27.69	0.55%			
47	Mizoram	25.60	0.50%			
48	ADANI SOLAR	24.68	0.49%			
49	JITPL	22.97	0.45%			
50	NTPC North	21.36	0.42%			
51	Nikachhu Hydropower	21.25	0.42%			

52	Amp Energy Green	20.72	0.41%			
53	Maruti Clean Coal	20.12	0.40%			
54	DVC	20.06	0.40%			
55	KBUNL(MTPS-II)	19.65	0.39%			
56	Arunachal Pradesh	18.27	0.36%			
57	Adani Green Energy	17.93	0.35%			
58	Barh Stg-2	17.88	0.35%			
59	Onevolt Energy	17.42	0.34%			
60	West Bengal	14.55	0.29%			
61	Farakka Stg 3	14.33	0.28%			
62	Chandigarh	14.13	0.28%			
63	BALCO 2	13.10	0.26%			
64	Ostro Kannada Power	13.09	0.26%			
65	Meghalaya	12.19	0.24%			
66	NTPC Kudgi	11.23	0.22%			
67	Simhapuri Energy	9.53	0.19%			
68	NTPP BRBCL	9.26	0.18%			
69	ADANI SOLAR	8.99	0.18%			
70	Kahalgaon-II	8.92	0.18%			
71	Lanco Budhil	8.66	0.17%			
72	Goa WR	8.37	0.16%			
73	Adani Green Energy	8.19	0.16%			
74	Barh STPS Stg - I	7.80	0.15%			
75	Telangana	7.48	0.15%			
76	Pondicherry	7.24	0.14%			
77	Kerala	7.07	0.14%			
78	Bongaigaon	7.05	0.14%			
79	WIND FIVE	6.64	0.13%			
80	Singoli Bhagwati	6.61	0.13%			
81	PARBATI II HE	6.51	0.13%			
82	ADANI	6.29	0.12%			
83	IL&FS	5.46	0.11%			
84	Kahalgaon	5.30	0.10%			
85	MB Power	5.10	0.10%			
86	Dadri Stg-2	4.82	0.09%			
87	GMR Warora	4.54	0.09%			
88	Ramagundam Floating	4.47	0.09%			
89	ADANI WIND	4.01	0.08%			
90	Nagaland	3.98	0.08%			
91	J&K	3.89	0.08%			
92	IGSTPS JHAJJAR	3.84	0.08%			
93	Adani Green Energy	3.64	0.07%			
94	ADANI	3.58	0.07%			
95	Unchahar-II	3.37	0.07%			
96	Palatana	3.36	0.07%			
97	Dadri TPS	3.32	0.07%			
98	Uttarakhand	3.30	0.07%			
99	Adani Green Energy	2.95	0.06%			
100	TPSL 200MW	2.84	0.06%			
101	Transition Energy	2.66	0.05%			
102	Unchahar-IV	2.65	0.05%			
103	Rihand-I	2.50	0.05%			
104	RENEW SURYA	2.47	0.05%			
105	Unchahar-III	2.12	0.04%			
106	Unchahar-I	1.81	0.04%			
107	Darlipalli	1.45	0.03%			
108	NTPC Telangana	1.44	0.03%			

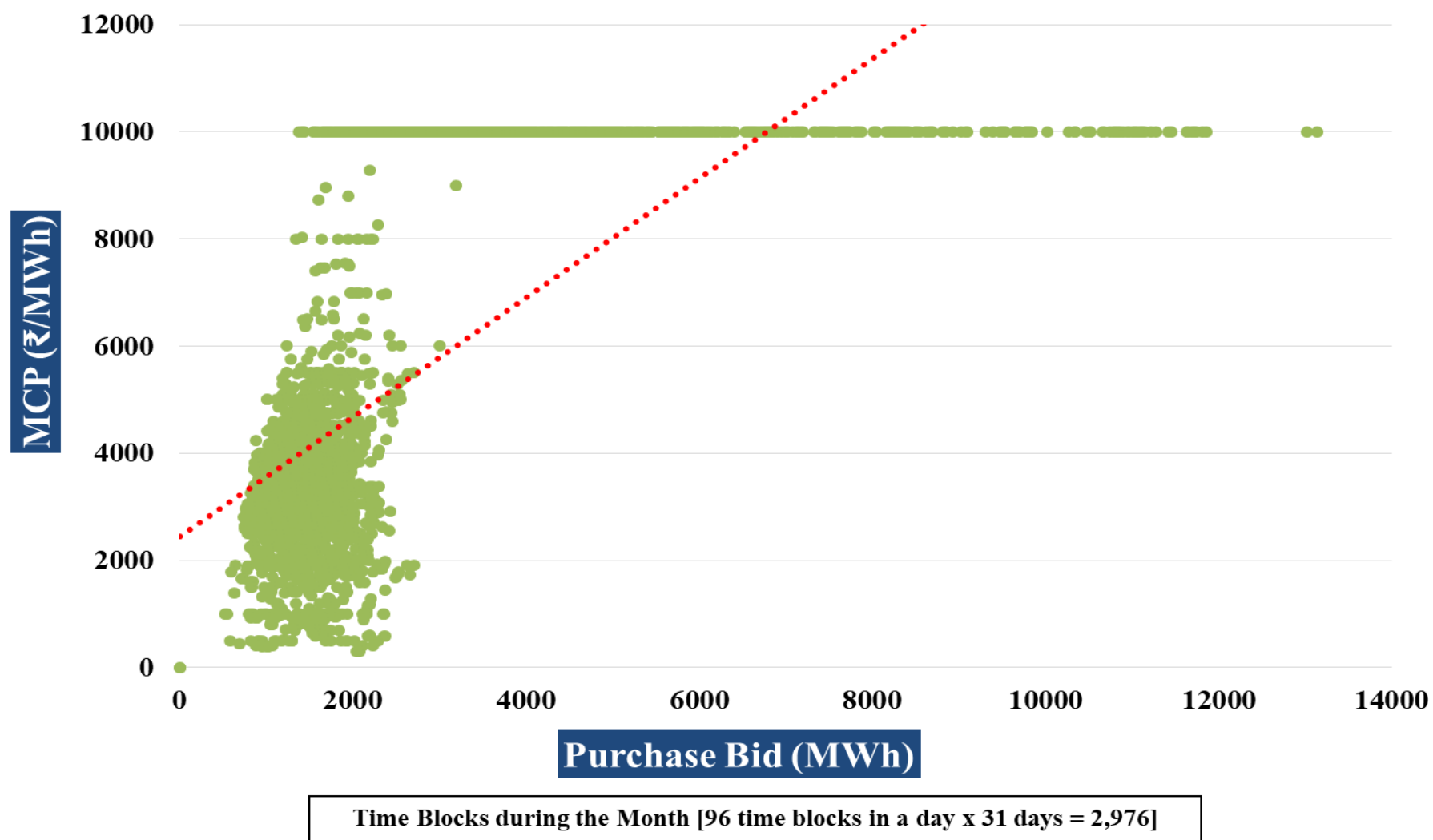
109	Sikkim	1.43	0.03%			
110	DHARIWAL STU	1.33	0.03%			
111	Tanda Stg-2	1.30	0.03%			
112	Simhadri FSP 15 MW	1.22	0.02%			
113	Dhariwal ISTS	0.82	0.02%			
114	ADANI SOLAR	0.81	0.02%			
115	Ramagundam Stg-1	0.68	0.01%			
116	Jhabua Power	0.60	0.01%			
117	TPSL Banderwala	0.57	0.01%			
118	Rihand-III	0.53	0.01%			
119	DGEN Mega Power	0.52	0.01%			
120	Rihand-II	0.51	0.01%			
121	NTPL	0.49	0.01%			
122	Singrauli	0.43	0.01%			
123	NTPC Sholapur	0.37	0.01%			
124	NTPC Simhadri 25	0.35	0.01%			
125	Sembcorp Gayatri	0.32	0.01%			
126	Serentica Renewables	0.14	0.003%			
127	GMR Kamalanga	0.14	0.003%			
128	Nani Virani Wind	0.12	0.002%			
129	ADANI GREEN	0.12	0.002%			
130	Costal Energen	0.11	0.002%			
131	The Tata Power Co	0.11	0.002%			
132	Vindhyachal stg-1	0.10	0.002%			
133	NLC	0.09	0.002%			
134	NLC TPS-II Stg-2	0.07	0.001%			
135	Khargone STPP	0.06	0.001%			
136	NTPC Gadawara	0.06	0.001%			
137	NLC TPS-II	0.06	0.001%			
138	Simhadri Stg-1	0.05	0.001%			
139	Jharkhand	0.04	0.001%			
140	Neyveli New Thermal	0.04	0.001%			
141	NLC TPS-II Expn	0.03	0.001%			
142	Vindhyachal stg-5	0.02	0.0004%			
143	Sipat Stg-1	0.02	0.0004%			
144	Mouda Stg-1	0.02	0.0004%			
145	Kopili Power Station	0.02	0.0003%			
146	Talcher Stg-2	0.02	0.0003%			
147	Mouda Stg-2	0.02	0.0003%			
148	Sipat Stg-2	0.01	0.0001%			
Total Volume of top 10		2391.19	47.10%	Total Volume of top 10	4,448.70	87.62%
Total Volume in PXs		5,077.26		Total Volume in PXs	5,077.26	

Annexure-VIII**Evening, Day, Night, Morning, Maximum, Minimum, Wt. Avg. MCP (₹/kWh) and Final Scheduled Volume (MU) under RTM**

Date	Morning MCP (07:00-10:00)	Day MCP (11:00-17:00)	Evening MCP (18:00- 23:00)	Night MCP (01:00- 06:00, 23:00-24:00)	Maximum MCP	Minimum MCP	Wt. Avg. MCP	Final Scheduled Volume (MU)
01-07-2024	2.46	2.23	6.85	4.17	10.00	1.40	3.86	113.83
02-07-2024	2.19	1.50	7.25	4.17	10.00	0.70	3.67	130.85
03-07-2024	2.73	2.20	8.67	4.30	10.00	1.68	4.36	118.38
04-07-2024	1.49	2.42	8.72	4.33	10.00	0.52	4.14	107.09
05-07-2024	3.34	2.25	4.26	4.19	10.00	1.40	3.72	108.41
06-07-2024	1.11	0.84	3.75	2.48	4.74	0.40	2.12	84.31
07-07-2024	2.20	1.61	3.90	3.05	5.39	0.92	2.65	148.40
08-07-2024	3.47	3.42	8.96	4.94	10.00	2.81	5.02	111.23
09-07-2024	4.07	3.75	9.32	5.94	10.00	2.60	5.83	94.59
10-07-2024	5.05	3.87	9.32	8.99	10.00	3.06	6.94	95.33
11-07-2024	5.26	3.60	9.18	7.75	10.00	2.80	6.54	87.70
12-07-2024	2.40	2.22	3.92	4.74	10.00	1.20	3.63	108.59
13-07-2024	2.31	2.50	8.52	4.56	10.00	1.29	4.35	117.07
14-07-2024	2.81	2.48	5.33	4.95	10.00	1.73	3.89	125.29
15-07-2024	4.06	3.15	9.06	5.30	10.00	2.12	5.04	95.88
16-07-2024	2.45	1.63	8.88	6.56	10.00	0.70	5.06	128.41
17-07-2024	3.72	3.42	8.91	9.04	10.00	2.00	6.34	103.58
18-07-2024	3.95	3.04	9.23	9.07	10.00	1.50	6.43	105.59
19-07-2024	3.43	2.42	8.89	7.06	10.00	0.70	5.56	116.13
20-07-2024	2.40	2.98	9.23	9.07	10.00	0.80	6.34	110.62
21-07-2024	2.24	1.35	6.70	9.21	10.00	0.30	5.07	118.91
22-07-2024	3.54	2.71	8.81	5.42	10.00	1.84	5.14	91.82
23-07-2024	3.52	2.88	8.84	4.97	10.00	1.79	5.12	97.11
24-07-2024	3.21	2.34	8.42	4.39	10.00	1.00	4.48	93.75
25-07-2024	3.48	2.70	9.15	4.60	10.00	1.93	4.81	85.19
26-07-2024	3.49	2.64	8.81	4.47	10.00	1.10	4.63	95.00
27-07-2024	3.43	2.14	8.90	4.85	10.00	0.50	4.83	93.27
28-07-2024	3.18	1.49	7.51	5.36	10.00	0.50	4.49	100.10
29-07-2024	4.51	3.34	9.57	6.76	10.00	2.01	6.06	92.16
30-07-2024	7.15	3.87	9.75	10.00	10.00	2.27	7.66	110.60
31-07-2024	4.65	2.95	7.43	8.54	10.00	1.50	6.11	141.64
Maximum	7.15	3.87	9.75	10.00	10.00	3.06	7.66	148.40
Minimum	1.11	0.84	3.75	2.48	4.74	0.30	2.12	84.31
Average	3.33	2.58	7.94	5.91	9.68	1.45	4.96	107.45

MCP: Market Clearing Price (₹/kWh)**FSV: Final Scheduled Volume (MU)**

Comparison of MCP w.r.t. Purchase Bid for 2,976 Time Blocks during the month of July, 2024 under RTM



Maximum Final Schedule Volume (FSV), Minimum FSV, Maximum Market Clearing Price (MCP) and Minimum MCP under RTM

Date	Max. FSV (MU)		Max. MCP (₹/kWh)		Min FSV (MU)		Min. MCP (₹/kWh)	
	Time Block	Value	Time Block	Value	Time Block	Value	Time Block	Value
01-07-2024	16:15 - 16:30	1.75	21:00 - 21:15	10.00	03:15 - 03:30	0.59	13:00 - 13:15	1.40
02-07-2024	14:45 - 15:00	2.09	20:45 - 21:00	10.00	00:45 - 01:00	0.84	13:00 - 13:15	0.70
03-07-2024	14:45 - 15:00	2.03	19:15 - 19:30	10.00	20:15 - 20:30	0.64	10:30 - 10:45	1.68
04-07-2024	11:15 - 11:30	1.60	19:00 - 19:15	10.00	19:15 - 19:30	0.70	10:00 - 10:15	0.52
05-07-2024	04:00 - 04:15	1.46	00:00 - 00:15	10.00	23:45 - 24:00	0.73	15:00 - 15:15	1.40
06-07-2024	14:15 - 14:30	1.22	22:45 - 23:00	4.74	07:00 - 07:15	0.53	13:00 - 13:15	0.40
07-07-2024	14:45 - 15:00	2.51	22:30 - 22:45	5.39	00:30 - 00:45	1.01	11:15 - 11:30	0.92
08-07-2024	12:00 - 12:15	1.83	19:00 - 19:15	10.00	21:45 - 22:00	0.58	13:00 - 13:15	2.81
09-07-2024	13:45 - 14:00	1.52	00:00 - 00:15	10.00	20:15 - 20:30	0.43	13:00 - 13:15	2.60
10-07-2024	15:15 - 15:30	1.89	00:00 - 00:15	10.00	22:00 - 22:15	0.24	10:00 - 10:15	3.06
11-07-2024	17:00 - 17:15	1.63	00:00 - 00:15	10.00	00:00 - 00:15	0.36	10:45 - 11:00	2.80
12-07-2024	01:30 - 01:45	1.63	00:00 - 00:15	10.00	23:00 - 23:15	0.84	13:15 - 13:30	1.20
13-07-2024	14:45 - 15:00	1.99	19:45 - 20:00	10.00	05:15 - 05:30	0.46	13:00 - 13:15	1.29
14-07-2024	13:45 - 14:00	2.15	22:45 - 23:00	10.00	06:00 - 06:15	0.66	13:00 - 13:15	1.73
15-07-2024	12:15 - 12:30	1.51	19:00 - 19:15	10.00	21:15 - 21:30	0.57	13:30 - 13:45	2.12
16-07-2024	03:30 - 03:45	2.01	00:00 - 00:15	10.00	21:30 - 21:45	0.72	13:00 - 13:15	0.70
17-07-2024	13:15 - 13:30	2.01	00:00 - 00:15	10.00	22:00 - 22:15	0.51	13:00 - 13:15	2.00
18-07-2024	14:30 - 14:45	2.07	00:00 - 00:15	10.00	23:00 - 23:15	0.56	14:00 - 14:15	1.50
19-07-2024	12:45 - 13:00	2.04	00:00 - 00:15	10.00	21:45 - 22:00	0.55	12:00 - 12:15	0.70
20-07-2024	13:45 - 14:00	2.15	00:00 - 00:15	10.00	21:15 - 21:30	0.40	09:15 - 09:30	0.80
21-07-2024	11:45 - 12:00	2.35	00:00 - 00:15	10.00	00:15 - 00:30	0.37	13:00 - 13:15	0.30
22-07-2024	15:30 - 15:45	1.58	00:00 - 00:15	10.00	02:00 - 02:15	0.53	14:45 - 15:00	1.84
23-07-2024	14:00 - 14:15	1.65	00:00 - 00:15	10.00	05:00 - 05:15	0.55	05:00 - 05:15	1.79
24-07-2024	14:15 - 14:30	1.56	19:15 - 19:30	10.00	07:15 - 07:30	0.54	13:00 - 13:15	1.00
25-07-2024	14:45 - 15:00	1.50	18:45 - 19:00	10.00	23:45 - 24:00	0.50	13:00 - 13:15	1.93
26-07-2024	15:00 - 15:15	1.75	19:00 - 19:15	10.00	23:00 - 23:15	0.50	13:00 - 13:15	1.10
27-07-2024	15:15 - 15:30	1.64	00:00 - 00:15	10.00	21:15 - 21:30	0.56	13:00 - 13:15	0.50
28-07-2024	13:45 - 14:00	2.16	00:00 - 00:15	10.00	22:45 - 23:00	0.47	13:00 - 13:15	0.50
29-07-2024	13:15 - 13:30	1.67	00:00 - 00:15	10.00	22:15 - 22:30	0.26	13:00 - 13:15	2.01
30-07-2024	16:30 - 16:45	1.99	00:00 - 00:15	10.00	20:30 - 20:45	0.34	13:00 - 13:15	2.27
31-07-2024	21:00 - 21:15	2.19	00:00 - 00:15	10.00	00:00 - 00:15	0.71	18:00 - 18:15	1.50

MCP: Market Clearing Price (₹/kWh)

FSV: Final Scheduled Volume (MU)

Sellers and Buyers under Real Time Market (RTM) in July, 2024						
S. No.	Entity Name	Sell		Entity Name	Purchase	
		(MU)	Percent (%)		(MU)	Percent (%)
1	Tamil Nadu	418.23	12.72%	Punjab	593.18	18.04%
2	Karnataka	277.06	8.43%	Rajasthan	484.06	14.72%
3	Bihar	196.65	5.98%	Telangana	359.11	10.92%
4	Delhi	162.62	4.95%	West Bengal	257.84	7.84%
5	Odisha	157.75	4.80%	Uttar Pradesh	230.08	7.00%
6	Haryana	154.54	4.70%	Maharashtra	128.26	3.90%
7	Andhra Pradesh	134.21	4.08%	Kerala	120.45	3.66%
8	Uttar Pradesh	117.11	3.56%	Bihar	119.09	3.62%
9	Chhattisgarh	102.82	3.13%	Tamil Nadu	118.55	3.61%
10	Madhya Pradesh	102.76	3.13%	Gujarat	96.29	2.93%
11	Himachal Pradesh	82.76	2.52%	Himachal Pradesh	89.32	2.72%
12	Telangana	71.92	2.19%	Haryana	88.08	2.68%
13	Maharashtra	54.11	1.65%	Andhra Pradesh	86.45	2.63%
14	Assam	49.87	1.52%	Delhi	78.43	2.38%
15	West Bengal	43.33	1.32%	Assam	72.72	2.21%
16	Gujarat	42.48	1.29%	Uttarakhand	59.20	1.80%
17	Rajasthan	38.94	1.18%	Madhya Pradesh	57.80	1.76%
18	RENEW SURYA	34.08	1.04%	Odisha	46.25	1.41%
19	Jharkhand	31.63	0.96%	Chhattisgarh	32.60	0.99%
20	J&K	31.34	0.95%	DVC	30.91	0.94%
21	Punjab	30.37	0.92%	Jharkhand	25.05	0.76%
22	Uttarakhand	29.75	0.90%	Daman & Diu - Dadra &	18.84	0.57%
23	Arunachal Pradesh	27.38	0.83%	Tripura	16.07	0.49%
24	The Tata Power Co	27.28	0.83%	Karnataka	10.31	0.31%
25	ADANI	26.68	0.81%	ArcelorMittal Nippon steel	8.97	0.27%
26	DVC	25.27	0.77%	MAHAN ENERGEN	7.78	0.24%
27	Transition Green	24.10	0.73%	Simhapuri Energy Limited	7.67	0.23%
28	Sembcorp Energy	22.40	0.68%	Manipur	6.31	0.19%
29	NVVN (SNA) -	21.26	0.65%	MB Power	5.33	0.16%
30	Adani Green Energy	20.90	0.64%	SKS Power	5.32	0.16%
31	Kerala	18.91	0.58%	BHARAT ALUMINIUM	4.36	0.13%
32	Jindal Power Ltd.	18.17	0.55%	Railways	4.06	0.12%
33	SKS Power	16.93	0.51%	Meghalaya	3.49	0.11%
34	RKM Power	16.55	0.50%	Adani Power Limited -	2.70	0.08%
35	Adani Power	16.52	0.50%	Goa WR	2.13	0.06%
36	RENEW SURYA	16.18	0.49%	Jindal Steel	1.96	0.06%
37	MEENAKSHI	16.13	0.49%	Chandigarh	1.53	0.05%
38	Serentica	15.75	0.48%	Goa SR	1.48	0.05%
39	ADHUNIK POWER	15.66	0.48%	Jhabua Power	1.12	0.03%
40	MAHAN	14.77	0.45%	Sikkim	1.06	0.03%
41	Farakka	14.48	0.44%	Sainj HEP	0.88	0.03%
42	BALCO 2	13.54	0.41%	Kawas	0.72	0.02%
43	Sipat Stg-1	13.19	0.40%	J&K	0.57	0.02%
44	Nabinagar Power	13.17	0.40%	Ratnagiri Gas & Power	0.56	0.02%
45	Kahalgaon-II	12.54	0.38%	ACBIL	0.51	0.02%
46	Pondicherry	12.16	0.37%	Gandhar	0.49	0.01%
47	Manipur	10.67	0.32%	Pondicherry	0.40	0.01%

48	AD Hydro	10.07	0.31%	Jindal Power	0.05	0.002%
49	NREL-Dayapar	10.06	0.31%	Arunachal Pradesh	0.02	0.001%
50	Rihand-III	9.97	0.30%			
51	ADANI WIND	9.77	0.30%			
52	Tanda Stg-2	8.75	0.27%			
53	Vindhyachal stg-4	8.73	0.27%			
54	Singrauli	8.58	0.26%			
55	DB Power	8.52	0.26%			
56	Sorang HEP,	8.32	0.25%			
57	ADANI	8.23	0.25%			
58	Rihand-II	8.13	0.25%			
59	Sasan UMPP	8.11	0.25%			
60	NTPC Kudgi	8.03	0.24%			
61	Karcham Wangtoo	8.00	0.24%			
62	Ostro Kannada	7.93	0.24%			
63	Mouda Stg-2	7.90	0.24%			
64	Rihand-I	7.43	0.23%			
65	NTPC Telangana	7.42	0.23%			
66	Simhadri Stg-1	7.19	0.22%			
67	Shree Cement	7.18	0.22%			
68	Ramagundam Stg-1	7.14	0.22%			
69	NTECL Vallur	6.96	0.21%			
70	Neyveli New	6.92	0.21%			
71	Korba	6.71	0.20%			
72	Jindal Steel	6.66	0.20%			
73	NEA-NR	6.63	0.20%			
74	Sipat Stg-2	6.61	0.20%			
75	Vindhyachal stg-3	6.59	0.20%			
76	Renew Surya Ravi	6.45	0.20%			
77	Tripura	6.38	0.19%			
78	NTPL	6.27	0.19%			
79	RENEW SURYA	6.24	0.19%			
80	Talcher Stg-2	6.19	0.19%			
81	Bongaigaon	6.11	0.19%			
82	NTPC Lara	5.91	0.18%			
83	Adani Power	5.68	0.17%			
84	NLC	5.63	0.17%			
85	ACBIL	5.61	0.17%			
86	Amp Energy Green	5.57	0.17%			
87	MB Power	5.55	0.17%			
88	Sikkim	5.52	0.17%			
89	MAHAN	5.41	0.16%			
90	Vindhyachal stg-5	5.18	0.16%			
91	Kahalgaoon	5.14	0.16%			
92	Farakka Stg 3	5.11	0.16%			
93	Vindhyachal stg-1	5.05	0.15%			
94	Barh Stg-2	4.89	0.15%			
95	IGSTPS JHAJJAR	4.89	0.15%			
96	Transition Energy	4.65	0.14%			
97	Onevolt Energy	4.58	0.14%			
98	NTPC Gadarwara	4.48	0.14%			
99	Palatana	4.42	0.13%			

100	Jindal Power	4.37	0.13%			
101	Vindhyachal stg-2	4.30	0.13%			
102	Serentica	4.22	0.13%			
103	NTPC Sholapur	4.20	0.13%			
104	Simhadri Stg-2	4.19	0.13%			
105	Dadri Stg-2	4.08	0.12%			
106	Grian Energy Private	4.02	0.12%			
107	Amplus Ages	3.58	0.11%			
108	Unchahar-IV	3.56	0.11%			
109	Mouda Stg-1	3.40	0.10%			
110	ADANI SOLAR	3.27	0.10%			
111	Dadri TPS	3.22	0.10%			
112	NTPC North	3.20	0.10%			
113	Khargone STPP	2.95	0.09%			
114	TRN Energy	2.95	0.09%			
115	AGBPP	2.82	0.09%			
116	TPSL Banderwala	2.58	0.08%			
117	Goa WR	2.53	0.08%			
118	Simhapuri Energy	2.40	0.07%			
119	Nagaland	2.25	0.07%			
120	AGTPP	2.19	0.07%			
121	Ayana Renewable	2.08	0.06%			
122	Ramagundam Stg-3	2.07	0.06%			
123	ADANI	2.03	0.06%			
124	Barh STPS Stg - I	2.03	0.06%			
125	Maithon Power	1.99	0.06%			
126	JITPL	1.93	0.06%			
127	Chandigarh	1.92	0.06%			
128	Unchahar-II	1.88	0.06%			
129	Maruti Clean Coal	1.85	0.06%			
130	KBUNL(MTPS-II)	1.69	0.05%			
131	Darlipalli	1.63	0.05%			
132	Jorethang	1.60	0.05%			
133	Singoli Bhagwati	1.58	0.05%			
134	Daman & Diu -	1.40	0.04%			
135	RENEW SURYA	1.39	0.04%			
136	DGEN Mega Power	1.38	0.04%			
137	NTPP BRBCL	1.35	0.04%			
138	Sainj HEP	1.34	0.04%			
139	Talcher	1.33	0.04%			
140	Unchahar-I	1.19	0.04%			
141	Meghalaya	1.14	0.03%			
142	Adept Renewable	1.11	0.03%			
143	NLC TPS-II Stg-2	1.00	0.03%			
144	ADANI SOLAR	0.99	0.03%			
145	Unchahar-III	0.95	0.03%			
146	Lanco Budhil	0.92	0.03%			
147	IND BARATH	0.86	0.03%			
148	Korba Stg 3	0.83	0.03%			
149	Dhariwal ISTS	0.72	0.02%			
150	NLC TPS-II	0.71	0.02%			
151	Tashiding HEP	0.69	0.02%			

152	NSPCL Bhilai	0.60	0.02%			
153	Basochhu	0.58	0.02%			
154	RENEW SURYA	0.56	0.02%			
155	Adani Green Energy	0.51	0.02%			
156	Jhabua Power	0.51	0.02%			
157	IL&FS	0.47	0.01%			
158	TPSL 200MW	0.44	0.01%			
159	GMR Warora	0.35	0.01%			
160	WIND FIVE	0.29	0.01%			
161	DHARIWAL STU	0.29	0.01%			
162	NLC TPS-II Expn	0.29	0.01%			
163	Jaypee Nigrie	0.20	0.01%			
164	Sembcorp Gayatri	0.16	0.005%			
165	ADANI SOLAR	0.16	0.005%			
166	Nani Virani Wind	0.15	0.004%			
167	Chuzachen	0.14	0.004%			
168	Nikachhu	0.13	0.004%			
169	Adani Green Energy	0.11	0.003%			
170	Mizoram	0.09	0.003%			
171	GMR Kamalanga	0.06	0.002%			
172	Goa SR	0.06	0.002%			
173	Kameng HEP	0.03	0.001%			
174	NTPC Simhadri 25	0.01	0.0003%			
Total Volume of top 10		1,823.75	55.46%	Total Volume of top 10	2,506.92	76.23%
Total Volume in PXs		3,288.41		Total Volume in PXs	3,288.41	

Cross Border Electricity Transactions under Day Ahead Market (DAM) in IEX with Nepal and Bhutan during the month of July, 2024

S. No	Delivery Date	Buy Volume By Nepal (MU)	Sell Volume by Nepal (MU)	Buy Volume By Bhutan (MU)	Sell Volume by Bhutan (MU)
1	01-07-2024	-	8.32	-	1.36
2	02-07-2024	-	9.02	-	1.24
3	03-07-2024	-	10.65	-	1.64
4	04-07-2024	-	10.88	-	1.59
5	05-07-2024	-	10.96	-	1.56
6	06-07-2024	-	11.42	-	1.73
7	07-07-2024	-	-	-	1.37
8	08-07-2024	-	7.56	-	1.55
9	09-07-2024	-	12.25	-	1.88
10	10-07-2024	-	12.48	-	2.31
11	11-07-2024	-	13.36	-	2.31
12	12-07-2024	-	13.26	-	2.31
13	13-07-2024	-	13.32	-	1.96
14	14-07-2024	-	13.34	-	1.90
15	15-07-2024	-	13.57	-	2.30
16	16-07-2024	-	13.19	-	2.30
17	17-07-2024	-	13.29	-	2.28
18	18-07-2024	-	12.91	-	2.33
19	19-07-2024	-	12.92	-	2.33
20	20-07-2024	-	13.19	-	2.30
21	21-07-2024	-	11.73	-	1.96
22	22-07-2024	-	13.31	-	1.75
23	23-07-2024	-	13.32	-	1.75
24	24-07-2024	-	11.98	-	2.06
25	25-07-2024	-	12.73	-	1.96
26	26-07-2024	-	13.14	-	1.61
27	27-07-2024	-	12.43	-	1.70
28	28-07-2024	-	12.82	-	1.72
29	29-07-2024	-	11.78	-	2.19
30	30-07-2024	-	11.14	-	2.33
31	31-07-2024	-	10.38	-	2.32
Total		-	360.64	-	59.89
Grand Total		420.53			

-: No transaction took place

Note: Cross Border Transactions of Electricity of **420.53 MU (i.e. 360.64 MU sold by Nepal, 59.89 MU sold by Bhutan)** happened during July, 2024 in IEX, which is included under DAM Volume of July, 2024 in IEX. No Cross Border drawal Transactions of Electricity happened with **Nepal & Bhutan** for the month of July, 2024 in IEX under DAM.

Cross Border Electricity Transactions under Real Time Market (RTM) in IEX with Nepal and Bhutan during the month of July, 2024					
S. No	Delivery Date	Buy Volume By Nepal (MU)	Sell Volume by Nepal (MU)	Buy Volume By Bhutan (MU)	Sell Volume by Bhutan (MU)
1	01-07-2024	-	2.21	-	0.06
2	02-07-2024	-	2.69	-	0.18
3	03-07-2024	-	0.76	-	0.11
4	04-07-2024	-	0.38	-	0.10
5	05-07-2024	-	0.22	-	0.08
6	06-07-2024	-	-	-	0.04
7	07-07-2024	-	12.22	-	0.02
8	08-07-2024	-	4.13	-	0.05
9	09-07-2024	-	0.37	-	0.07
10	10-07-2024	-	0.66	-	-
11	11-07-2024	-	0.05	-	-
12	12-07-2024	-	0.07	-	-
13	13-07-2024	-	0.32	-	-
14	14-07-2024	-	0.74	-	-
15	15-07-2024	-	0.30	-	-
16	16-07-2024	-	0.06	-	-
17	17-07-2024	-	0.07	-	-
18	18-07-2024	-	0.06	-	-
19	19-07-2024	-	0.17	-	-
20	20-07-2024	-	0.28	-	-
21	21-07-2024	-	0.46	-	-
22	22-07-2024	-	0.19	-	-
23	23-07-2024	-	0.16	-	-
24	24-07-2024	-	0.31	-	-
25	25-07-2024	-	0.04	-	-
26	26-07-2024	-	-	-	-
27	27-07-2024	-	0.02	-	-
28	28-07-2024	-	0.04	-	-
29	29-07-2024	-	-	-	-
30	30-07-2024	-	0.39	-	-
31	31-07-2024	-	0.72	-	-
Total		-	28.08	-	0.71
Grand Total		28.79			

-: No transaction took place

Note: Cross Border Transactions of Electricity of 28.79 MU (i.e. 28.08 MU sold by Nepal, 0.71 MU sold by Bhutan) happened during July, 2024 in IEX, which is included under RTM Volume of July, 2024 in IEX. No Cross Border drawal Transactions of Electricity happened with Nepal & Bhutan for the month of July, 2024 in IEX under RTM.

Analysis for change in trend of Final Scheduled Volume under DAM on 2nd Sunday & 5th Monday of July, 2024 (i.e. 14th & 29th July, 2024)

Final Scheduled Volume (MU) and the Daily Wt. Avg. MCP (₹/kWh) invariably shows decreasing trend on Sundays and increasing trend on Mondays as the demand of electricity in the country is less on Sundays as compared to other days of week. However, during the month of July, 2024, it is observed that on second Sunday (14th July, 2024), FSV showed increasing trend in comparison to second Saturday (13th July, 2024), on fifth Monday (29th July, 2024), FSV showed decreasing trend in comparison to fourth Sunday (28th July, 2024).

- (i) On second Sunday (14th July, 2024), although there was decrease in purchase on power exchange by some of the States in comparison to second Saturday (13th July, 2024) by **8.89 MU** [i.e. Andhra Pradesh (2.69 MU), Himachal Pradesh (2.32 MU), Haryana (1.03 MU), Odisha (1.01 MU) and Daman & Diu - Dadra & Nagar Haveli (0.76 MU), etc.], there was also increase in purchase on power exchange by some of the States by **25.16 MU** [i.e. Telangana (5.34 MU), Rajasthan (4.25 MU), Uttar Pradesh (4.14 MU), Punjab (2.30 MU) and Tamil Nadu (1.74 MU), etc.]. This resulted in an overall increase in FSV by **16.27 MU** on Sunday (14th July, 2024) as compared to Saturday (13th July, 2024).
- (ii) On fifth Monday (29th July, 2024), although there was increase in purchase on power exchange by some of the States in comparison to fourth Sunday (28th July, 2024) by **20.80 MU** [i.e. Punjab (7.70 MU), West Bengal (5.52 MU), Gujarat (2.07 MU), Chhattisgarh (1.27 MU) and Bihar (1.03 MU), etc.], there was also decrease in purchase on power exchange by some of the States by **15.16 MU** [i.e. Telangana (7.86 MU), Tamil Nadu (4.31 MU), Kerala (1.04 MU), Uttar Pradesh (0.87 MU) and Delhi (0.34 MU), etc.]. This resulted in an overall decrease in FSV by **5.64 MU** on Monday (29th July, 2024) as compared to Sunday (28th July, 2024).

Definitions/ Terminologies used in the Report

- 1. Area Clearing Price (ACP)** is price discovered in each time block of concerned bid area. The country has been divided into 13 bid areas for the purpose of calculating prices in Power Exchanges.
The 13 Bid areas are as under:
N1: Jammu and Kashmir, Himachal Pradesh, Chandigarh, Haryana; **N2:** Uttar Pradesh, Uttaranchal, Rajasthan, Delhi; **N3:** Punjab; **E1:** West Bengal, Sikkim, Bihar, Jharkhand; **E2:** Odisha; **W1:** Madhya Pradesh; **W2:** Maharashtra, Gujarat, Daman and Diu, Dadar and Nagar Haveli, North Goa; **W3:** Chhattisgarh; **S1:** Andhra Pradesh, Telangana, Karnataka, Pondicherry (Yanam), South Goa; **S2:** Tamil Nadu, Pondicherry (Puducherry), Pondicherry (Karaikal), Pondicherry (Mahe); **S3:** Kerala; **A1:** Tripura, Manipur, Mizoram, Nagaland; **A2:** Assam, Arunachal Pradesh, Meghalaya.
- 2. Wt. Avg. MCP** is the average of Daily Wt. Avg. MCP of the days during the month on which transaction happened.
- 3. Bilateral Transaction** means a transaction for exchange of electrical energy (MWh) between a specified buyer and a specified seller, from a specified point of injection to a specified point of drawal for a fixed or varying quantum of power (MW) for any time block during a month.
- 4. Daily Wt. Avg. MCP** is the average of MCP of all 96 Time Blocks of the day during which transaction happened.
- 5. Day-Ahead Market (DAM)** means a market where Day Ahead Contracts are transacted on the Power Exchanges, wherein Collective Transactions occur on day (T) and delivery of electricity is on the next day (T+1).
- 6. Elasticity** is percentage of change in MCP with respect to change in independent variable viz. peak demand, average purchase bid, average sell bid, generation from coal based plants, generation from hydro based plants, generation from wind based plants and generation from solar plants.
- 7. Energy Supplied** is the total energy (MU) available at the States' periphery.
- 8. Final Scheduled Volume** is the total of scheduled volume of all 96 time blocks in a day during the month in which transaction happened.
- 9. Green Term Ahead Market (GTAM)** is based on the principles of current Term Ahead Market (TAM) and will offer trade for Solar, Non-Solar and Hydro Renewable Energy (RE) generation.

- 10. Green Day Ahead Market (GDAM)** is based on the principles of current Day Ahead Market (DAM), where market participants purchase and sell electricity generated from renewable sources.
- 11. Long Duration Contracts** on the power exchanges is a product segment under which the participants are allowed to trade for delivery of power upto 90 Days (Delivery Starting from T+2 to T+90 Days).
- 12. MCP** is the price discovered in each of the 15 Minute Time Block. The day is divided in 96-time blocks of 15 minutes each.
- 13. Real Time Market (RTM)** means a market where Real-Time Contracts are transacted on the Power Exchange(s), i.e. a contract other than Day Ahead Contract or Intraday Contract or Contingency Contract. Under RTM collective transactions occur on day (T) or day (T-1) and delivery of electricity is on day (T) for a specified delivery period.
- 14. Term Ahead Market (TAM)** means a market where Term Ahead Contracts are transacted on the Power Exchange(s), i.e. a contract wherein transactions occur on day (T) and physical delivery of electricity is on a day more than one day ahead (T + 2 or more).