

# 2024 CALENDAR

# POWER MARKET

WAY FORWARD TOWARDS THE FUTURE LANDSCAPE

#PowerToPeople



# DECEMBER

2023

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
48					01	02	03
49	04	05	06	07	08	09	10
50	11	12	13	14	15	16	17
51	18	19	20	21	22	23	24
52	25	26	27	28	29	30	31



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# FEBRUARY

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
05				01	02	03	04
06	05	06	07	08	09	10	11
07	12	13	14	15	16	17	18
08	19	20	21	22	23	24	25
09	26	27	28	29			

## Week

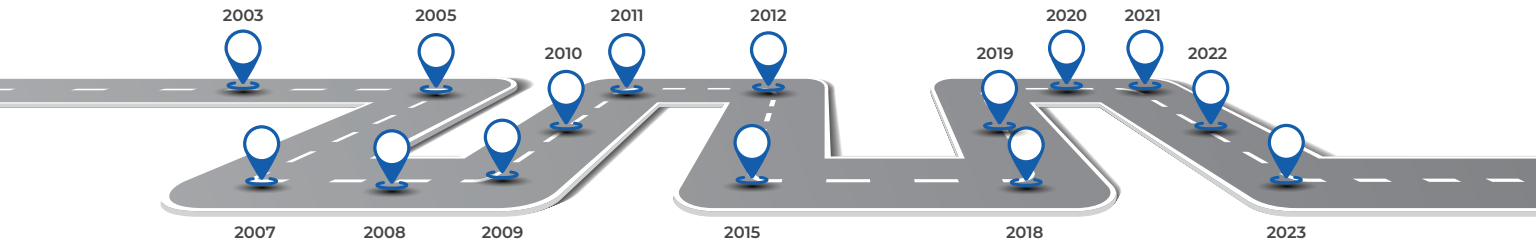
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
01	01	02	03	04	05	06	07
02	08	09	10	11	12	13	14
03	15	16	17	18	19	20	21
04	22	23 K	24	25	26	27	28
05	29	30	31				

Jan 23 - Netaji Birthday | Jan 26 - Republic Day



# JANUARY 2024

# POWER MARKET REFORMS & NEED TO MARKET REDESIGN



2003

## Electricity Act

- Electricity (Amendment) Act 2007

2005

## National Electricity Policy (2005)

2007

## Open Access in Inter-State Transmission

- Open Access in Inter-State Transmission
- First Amendment (2009)
- Second Amendment (2013)
- Third Amendment (2015)
- Fourth Amendment (2016)
- Fifth and Sixth Amendment (2019)

2008

## Introduction of DAM

2009

## Introduction of TAM

2010

## Power Market Regulations, 2010

- First Amendment (2014)
- Second Amendment (2020)
- Regulations (2021)

2011

## Introduction of RECs

2012

## 15 Minute Duration Contrasts in DAM

2015

## 24 Hours Transactions in DAC and Intraday

2018

## Discussion Paper on MBED in day – ahead

2019

## Real Time Market Regulations

2020

## Introduction of RTM

2021

## Introduction of GTAM

## Introduction of ESCerts Contract under PAT Cycle II

## Power Market Regulations, 2021

- Market Coupling proposed

## Discussion paper on MBED

## Introduction of GDAM

2022

## Introduction of additional Term Ahead Contracts and Green Term Ahead Contracts beyond T+11 and up to 90 days / 12 Weeks / 3 Months

## Central Electricity Regulatory Commission

(Connectivity and General Network Access to the Inter-State Transmission System) Regulations

## Deviation Settlement Regulations, Ancillary Services Regulation

## Guidelines on over-the-counter platform

2023

## Carbon Credit Trading Scheme, 2023

## Central Electricity Authority (Flexible Operation of Coal based Thermal Power Generating Units)

## Introduction of High Price DAM

## Introduction of Ancillary DAM & RTM

## Introduction of High Price Bilateral Contracts (DAC, Intraday, Any Day)

## Indian Electricity Grid Code, 2023

## Staff paper on 'Market Coupling'

- Ministry of Power
- CERC
- PXIL Products Launch
- CEA



Transforming Power Markets

POWER EXCHANGE INDIA LIMITED

www.powerexindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

# JANUARY

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
01	01	02	03	04	05	06	07
02	08	09	10	11	12	13	14
03	15	16	17	18	19	20	21
04	22	23	24	25	26	27	28
05	29	30	31				



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# MARCH

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
09					01	02	03
10	04	05	06	07	08	09	10
11	11	12	13	14	15	16	17
12	18	19	20	21	22	23	24
13	25	26	27	28	29	30	31

## Week

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
05				01	02	03	04
06	05	06	07	08	09	10	11
07	12	13	14	15	16	17	18
08	19	20	21	22	23	24	25
09	26	27	28	29			



# FEBRUARY 2024

# CARBON MARKET IN INDIA

- Ministry of Power has notified Carbon Credit Trading Scheme (CCTS) in June 2023 providing for introduction of Indian Carbon Market.
- The governance of the Indian Carbon Market (ICM) and direct oversight of its administrative and regulatory functioning shall vest in the National Steering Committee.
- The Bureau of Energy Efficiency shall be Administrator for the Indian Carbon Market & It shall also work as the secretariat for NSC.
- The Central Electricity Regulatory Commission (CERC) shall be the Regulator for the trading activities under the Indian Carbon Market.
- Trading of Carbon Certificate will be on Power Exchanges.
- The Ministry of Environment, Forest and Climate Change (MoEFCC) shall notify the GHG Emission intensity targets in terms of tons of carbon dioxide equivalent (tCO<sub>2</sub>e) per unit of equivalent product for each cycle of defined trajectory for the considered obligated entities.



**PXIL**  
Transforming Power Markets

**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

## FEBRUARY

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
05				01	02	03	04
06	05	06	07	08	09	10	11
07	12	13	14	15	16	17	18
08	19	20	21	22	23	24	25
09	26	27	28	29			



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

## APRIL

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
14	01	02	03	04	05	06	07
15	08	09	10	11	12	13	14
16	15	16	17	18	19	20	21
17	22	23	24	25	26	27	28
18	29	30					

### Week

Mon

Tue

Wed

Thu

Fri

Sat

Sun

09

01

02

03

10

04

05

06

07

**08**  
MID|O

09

10

11

11

12

13

14

15

16

17

12

18

19

20

21

22

23

24

13

**25**

26

27

28

**29**  
MID|O

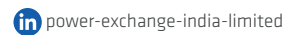
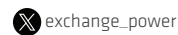
30

31

Mar 08 - Maha Shivaratri | Mar 25 - Holi | Mar 29 - Good Friday



# MARCH 2024



# MARKET COUPLING - CURRENT SCENARIO

- There are more than 50 inter-state trading licensees and 3 power exchanges operating under framework of PMR 2021. Standardised contracts are available for trading on the exchanges to meet short-term needs of market participants.
- Multi-exchange model in the power sector was originally conceived with a view to encourage competition amongst the exchanges catering to the growing and varying requirements of market participants, other than PXIL there are two other power exchanges approved by Regulator.
- Over the years, the volume of transactions in the power exchanges has increased manifold, and similarly, the number of products and market segments has expanded in all the power exchanges.
- Though the transactions through **Power Exchanges constitute only about 7%** of the total electricity generation.
- The Multiple Power Exchange model has resulted in **different prices being discovered in the same market due to varying order books at each power exchange.**

To address this scenario, Hon'ble Commission introduced provisions of 'Market Coupling' in PMR 2021 enabling uniform price discovery in DAM and RTM or any other Contract operating on power exchanges.



## Multiple Power Exchanges Existing Mechanism

Discover different price for same geography/bid area



Transforming Power Markets

POWER EXCHANGE INDIA LIMITED  
www.powerexindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

# MARCH

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
09					01	02	03
10	04	05	06	07	08	09	10
11	11	12	13	14	15	16	17
12	18	19	20	21	22	23	24
13	25	26	27	28	29	30	31



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# MAY

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
18			01	02	03	04	05
19	06	07	08	09	10	11	12
20	13	14	15	16	17	18	19
21	20	21	22	23	24	25	26
22	27	28	29	30	31		

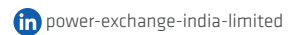
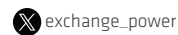
## Week

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
14	01	02	03	04	05	06	07
15	08	09 M O	10	11	12	13	14
16	15 K	16	17 M D O	18	19	20	21
17	22	23	24	25	26	27	28
18	29	30					

Apr 09 - Gudi Padwa | Apr 11 - Ramzan Id (Id-ul-Fitar) | Apr 14 - BR Ambedkar Jayanti  
Apr 15 - Bengali New Year | Apr 17 - Ramnavami



# APRIL 2024





# HOW MARKET COUPLING WILL WORK & #PowerToPeople

To overcome different price being discovered in the same geography/bid area the Regulator introduced provisions of 'Market Coupling' in PMR 2021 enabling

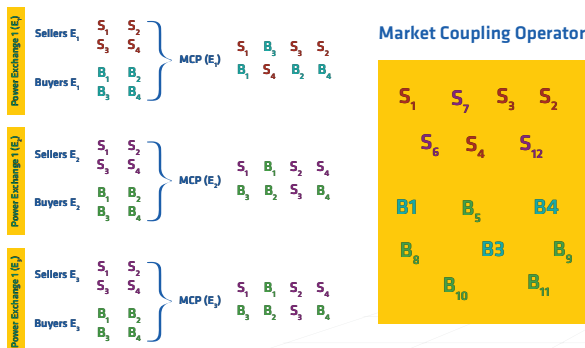
## Definition of Market Coupling

"Market Coupling" means the process whereby collected bids from all the Power Exchanges are matched, after taking into account all bid types, to discover the uniform market clearing price for the Day Ahead Market or Real-time Market or any other market as notified by the Commission, subject to market splitting".

## Objectives of Market Coupling

1. Discovery of uniform market clearing price for the Day Ahead Market or Real-time Market or any other market as notified by the Commission.
2. Optimal use of transmission infrastructure.
3. Maximisation of economic surplus, after taking into account all bid types and thereby creating simultaneous.

## Multiple Power Exchanges Market Coupling



Transforming Power Markets

POWER EXCHANGE INDIA LIMITED  
www.powerexchangeindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

# APRIL

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
14	01	02	03	04	05	06	07
15	08	09	10	11	12	13	14
16	15	16	17	18	19	20	21
17	22	23	24	25	26	27	28
18	29	30					



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# JUNE

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
22						01	02
23	03	04	05	06	07	08	09
24	10	11	12	13	14	15	16
25	17	18	19	20	21	22	23
26	24	25	26	27	28	29	30

## Week

Mon Tue Wed Thu Fri Sat Sun

18

**01**  
MIKIO

02

03

**04**

**05**

19

06

07

08

09

10

**11**

**12**

20

13

14

15

16

17

**18**

**19**

21

20

21

22

23

24

**25**

**26**

22

27

28

29

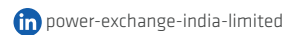
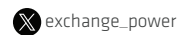
30

31

May 01 - Maharashtra Day / Labor Day



**MAY** 2024



Mumbai (M) | Delhi (D) | Kolkata (K) | Other Locations (O)

# ADDITION OF RENEWABLE ENERGY IN DAY-AHEAD MARKET

- Increased variable renewable energy in the overall energy mix of the country requires a range of strategies for integration into the grid.
- The variability and intermittency in RE generation creates the need for flexible ramp up / ramp down capability of conventional plants and multi-stage market mechanisms to address variability and forecast inaccuracies.
- Increase in Renewable energy in the overall energy mix require a robust market-based contract structure platform to encourage new investments and to enable balancing of variability in the grid by harnessing the diversity that an integrated market offers.



**PXIL**  
Transforming Power Markets

**POWER EXCHANGE INDIA LIMITED**  
www.powerexchangeindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

# MAY

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
18			01	02	03	04	05
19	06	07	08	09	10	11	12
20	13	14	15	16	17	18	19
21	20	21	22	23	24	25	26
22	27	28	29	30	31		



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# JULY

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
27	01	02	03	04	05	06	07
28	08	09	10	11	12	13	14
29	15	16	17	18	19	20	21
30	22	23	24	25	26	27	28
31	29	30	31				

## Week

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
22						01	02
23	03	04	05	06	07	08	09
24	10	11	12	13	14	15	16
25	17	18	19	20	21	22	23
26	24	25	26	27	28	29	30



# JUNE 2024

# RESOURCE ADEQUACY PLANNING & CAPACITY CONTRACTING

- Resource Adequacy is defined as a mechanism to ensure that there is adequate supply of generation or demand responsive resources to serve expected peak demand reliably.
- In this context, reliability is generally measured through instances/probability of system peak exceeding the installed generation capacity which is effectively available.
- Resource adequacy planning will be the setting up of a mechanism to enforce and monitor whether adequacy of supply is being met by Distribution companies state utilities.
- The Ministry of Power has released Guidelines for Resource adequacy Framework for Indian Power Sector.



**PXIL**  
Transforming Power Markets

**POWER EXCHANGE INDIA LIMITED**  
www.powerexchangeindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

# JUNE

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
22						01	02
23	03	04	05	06	07	08	09
24	10	11	12	13	14	15	16
25	17	18	19	20	21	22	23
26	24	25	26	27	28	29	30



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# AUGUST

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
31				01	02	03	04
32	05	06	07	08	09	10	11
33	12	13	14	15	16	17	18
34	19	20	21	22	23	24	25
35	26	27	28	29	30	31	

## Week

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
27	01	02	03	04	05	06	07
28	08	09	10	11	12	13	14
29	15	16	17	18	19	20	21
30	22	23	24	25	26	27	28
31	29	30	31				



# JULY 2024

# CAPACITY MARKET DEVELOPMENT

1. 'MOP has recently notified the 'Guidelines for Resource Adequacy Planning Framework for India' in consultation with CEA.
2. MOP in its report 'Development of Electricity Market in India' has identified following possible options for short-term and long-term capacity markets.
  - Phase 1 - Capacity market through e-bidding portal within 1 year.
  - Phase 2 - Short-term Capacity market through Power Exchange within one year from Phase-1 implementation.
  - Long Term Capacity Market will be two phases - 'Before and After' implementation of Market Based Economic Dispatch (MBED).



**PXIL**  
Transforming Power Markets

**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

# JULY

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
27	01	02	03	04	05	06	07
28	08	09	10	11	12	13	14
29	15	16	17	18	19	20	21
30	22	23	24	25	26	27	28
31	29	30	31				



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# SEPTEMBER

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
35							01
36	02	03	04	05	06	07	08
37	09	10	11	12	13	14	15
38	16	17	18	19	20	21	22
39	23	24	25	26	27	28	29
40	30						

## Week

Mon Tue Wed Thu Fri Sat Sun

31				01	02	03	04
32	05	06	07	08	09	10	11
33	12	13	14	15	16	17	18
34	19	20	21	22	23	24	25
35	26 <sub>D</sub>	27	28	29	30	31	

Mumbai (M) | Delhi (D) | Kolkata (K) | Other Locations (O)

Aug 15 - Independence Day | Aug 26 - Janmashtami

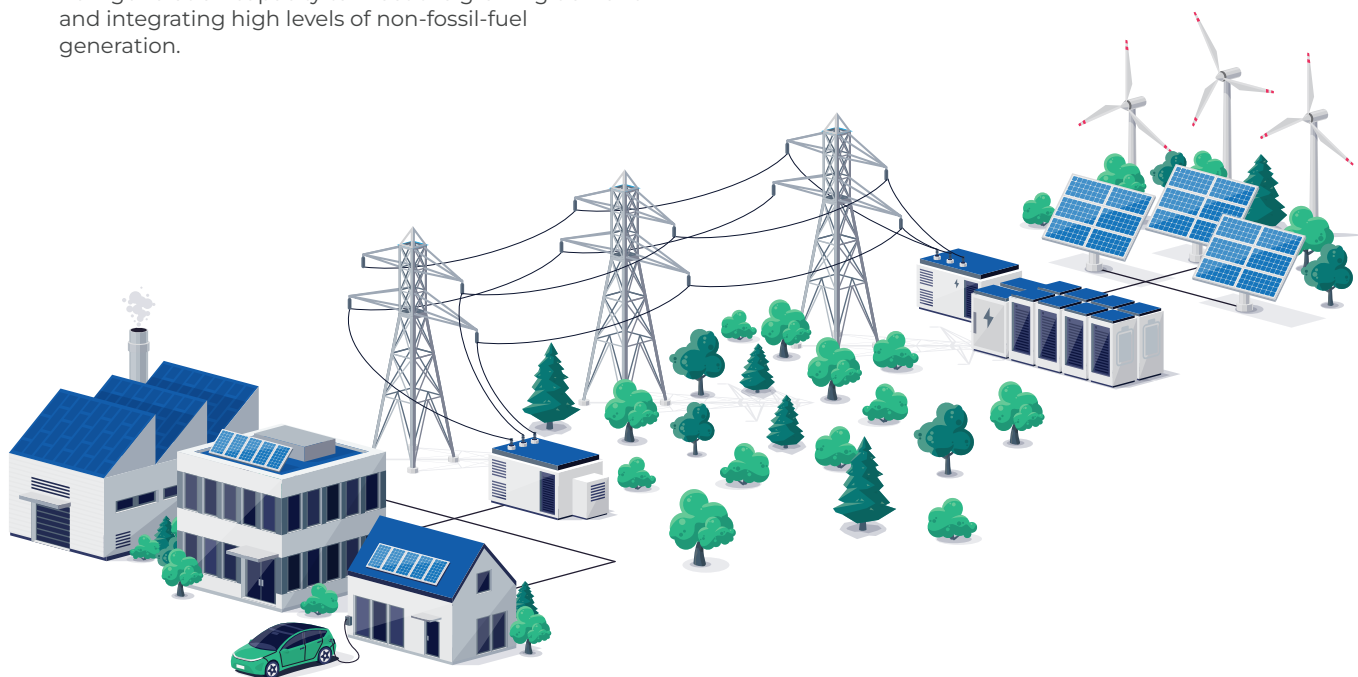


# AUGUST 2024



# MARKET BASED ECONOMIC DISPATCH (MBED)

- India declared it aims to meet 50% of its power generation capacity from non-fossil fuel sources by 2030 as part of its updated nationally determined contribution (NDC).
- Moreover, rapid economic growth coupled with universal electricity access could nearly double the country's electricity demand growth rate over the next five years. A paradigm shift in India's electricity market is necessary to rise to the twin challenges of facilitating new generation capacity to meet the growing demand and integrating high levels of non-fossil-fuel generation.
- As the next step in market evolution, the Ministry of Power vide discussion paper dated 01.06.2021 proposed the Market-Based Economic Dispatch (MBED) mechanism, which enables transformation from existing siloed self-scheduling and balancing mechanism to a national merit-order and a country-wide balancing area.
- The details of implementation of MBED are awaited.



Source: MOP discussion paper titled 'Discussion paper on Market Based Economic Dispatch (MBED) dated 1st June 2021



Transforming Power Markets

**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

# AUGUST

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
31				01	02	03	04
32	05	06	07	08	09	10	11
33	12	13	14	15	16	17	18
34	19	20	21	22	23	24	25
35	26	27	28	29	30	31	



POWER EXCHANGE INDIA LIMITED  
www.powerexindia.in

# OCTOBER

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
40		01	02	03	04	05	06
41	07	08	09	10	11	12	13
42	14	15	16	17	18	19	20
43	21	22	23	24	25	26	27
44	28	29	30	31			

## Week

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
35							01
36	02	03	04	05	06	07	08
37	09	10	11	12	13	14	15
38	16	17	18	19	20	21	22
39	23	24	25	26	27	28	29
40	30						

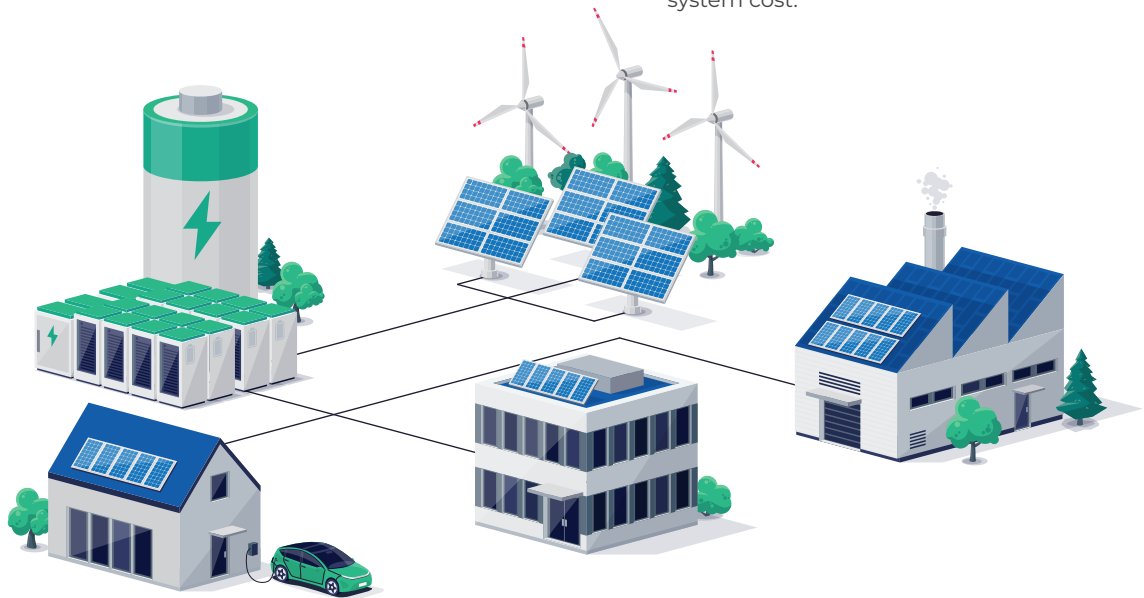
Sept 07 - Ganesh Chaturthi



# SEPTEMBER 2024

# SECONDARY RESERVE ANCILLARY SERVICE

- Ancillary Services means the service necessary to support the grid operation in maintaining power quality, reliability and security of the grid and includes Primary Reserve Ancillary Services ('PRAS'), Secondary Reserve Ancillary Services ('SRAS'), Tertiary Reserve Ancillary Service, active power support for load following, reactive power support, black start and such other services as defined in the Grid Code.
- AS Regulation 2022 aim to provide mechanism for procurement through administered as well as market-based mechanism.
- TRAS has been implemented, from 01.06.2023, as a market based mechanism by engaging services of Power exchanges for bid collection from eligible entities.
- MOP report titled 'Development of Electricity Market' in India has suggested following points for development of SRAS:
  1. A uniform product for secondary frequency regulation should be introduced.
  2. Resources should also be paid availability charges as they reserve some of their capacity for ancillary services instead of participating in energy markets.
  3. To begin with, ancillary and energy can be independent markets as co-optimization requires a single bidding framework for energy and ancillary. Going forward, co-optimization of energy and ancillary services can bring optimization in system cost.



**PXIL**  
Transforming Power Markets

**POWER EXCHANGE INDIA LIMITED**  
www.powerexchangeindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

# SEPTEMBER

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
35							01
36	02	03	04	05	06	07	08
37	09	10	11	12	13	14	15
38	16	17	18	19	20	21	22
39	23	24	25	26	27	28	29
40	30						



POWER EXCHANGE INDIA LIMITED  
www.powerexindia.in

# NOVEMBER

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
44					01	02	03
45	04	05	06	07	08	09	10
46	11	12	13	14	15	16	17
47	18	19	20	21	22	23	24
48	25	26	27	28	29	30	

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
40		01	02	03	04	05	06
41	07	08	09	10 K	11 K	12	13
42	14	15	16	17	18	19	20
43	21	22	23	24	25	26	27
44	28	29	30	31 D			

Oct 02 - **Gandhi Jayanti** | Oct 10 - **Mahasaptami** | Oct 11 - **Mahanavami** |  
Oct 12 - **Dussehra** | Oct 31 - **Diwali** | Oct 22 - **PXIL Foundation Day**



# OCTOBER 2024

# 5-MIN BASED METERING, SCHEDULING, DISPATCH & SETTLEMENT

Presently, in India, generation and drawl schedules are prepared for every 15 mins time- block. With increased RE penetration, smaller dispatch intervals such as a 5-min scheduling and dispatch will have significant advantages.

- i. Management of ramping requirements in a 5-minute schedule is easier than a 15-minute schedule.
- ii. Shorter dispatch intervals would allow system operators to re-dispatch resources more frequently without relying heavily on ancillary services.
- iii. The 5-minute system would enable improvement in forecasting of demand and reduce forecasting errors. This would lower down the reserves' requirement.
- iv. The accuracy of RE forecasts would be higher in case of shorter dispatch intervals. Flexible resources/energy-limited resources can provide services more efficiently for shorter timeframes.



Transforming Power Markets

**POWER EXCHANGE INDIA LIMITED**

[www.powerexchangeindia.in](http://www.powerexchangeindia.in)



[powerexchangeindia](https://www.facebook.com/powerexchangeindia)



[powerexchangeindia](https://www.instagram.com/powerexchangeindia)



[exchange\\_power](https://twitter.com/exchange_power)



[power-exchange-india-limited](https://www.linkedin.com/company/power-exchange-india-limited)

# OCTOBER

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
40		01	02	03	04	05	06
41	07	08	09	10	11	12	13
42	14	15	16	17	18	19	20
43	21	22	23	24	25	26	27
44	28	29	30	31			



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# DECEMBER

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
48							01
49	02	03	04	05	06	07	08
50	09	10	11	12	13	14	15
51	16	17	18	19	20	21	22
52	23	24	25	26	27	28	29
01	30	31					

## Week

Mon Tue Wed Thu Fri Sat Sun

44

01 02 03  
M | K | O

45

04 05 06 07 08 09 10

46

11 12 13 14 15 16 17  
D

47

18 19 20 21 22 23 24

48

25 26 27 28 29 30

Nov 01 - Diwali | Nov 02 - Diwali (Bali Pratipada) | Nov 15 - Guru Nanak Jayanti



We're now in 16<sup>th</sup> year

# NOVEMBER 2024

powerexchangeindia 
 powerexchangeindia 
 exchange\_power 
 power-exchange-india-limited

Mumbai (M) | Delhi (D) | Kolkata (K) | Other Locations (O)

# FINANCIAL PRODUCT FOR ELECTRICITY - NEED FOR RE-DESIGN

- Financial products provide an avenue that help limit or even eliminate price risk in competitive energy markets. While there is a wide gamut of electricity derivatives available internationally, forwards, futures, swaps, and options are the widely used ones.
- At present, there are no financial products which electricity market participants can use and hedge themselves. This is partly because of the fact that power procurement is dominated by longer duration PPAs, and the power exchange represents a mere 4-5% of the overall electricity transaction.
- A beginning has been made with SEBI and CERC having reached an agreement to allow futures trading in electricity
- SEBI would regulate functioning of all financially traded electricity forwards while CERC would regulate physically settled forward/futures where electricity is delivered on future date at the contracted price.**



Transforming Power Markets

POWER EXCHANGE INDIA LIMITED

[www.powerexchangeindia.in](http://www.powerexchangeindia.in)



[powerexchangeindia](https://www.facebook.com/powerexchangeindia)



[powerexchangeindia](https://www.instagram.com/powerexchangeindia)



[exchange\\_power](https://twitter.com/exchange_power)



[power-exchange-india-limited](https://www.linkedin.com/company/power-exchange-india-limited)

# NOVEMBER

2024

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
44					01	02	03
45	04	05	06	07	08	09	10
46	11	12	13	14	15	16	17
47	18	19	20	21	22	23	24
48	25	26	27	28	29	30	



**POWER EXCHANGE INDIA LIMITED**  
www.powerexindia.in

# JANUARY

2025

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
01			01	02	03	04	05
02	06	07	08	09	10	11	12
03	13	14	15	16	17	18	19
04	20	21	22	23	24	25	26
05	27	28	29	30	31		

## Week

Mon Tue Wed Thu Fri Sat Sun

48

01

49

02

03

04

05

06

07

08

50

09

10

11

12

13

14

15

51

16

17

18

19

20

21

22

52

23

24

25

26

27

28

29

01

30

31

Dec 25 - Christmas



We're now  
in 16<sup>th</sup> year

# DECEMBER 2024



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited



# SUMMARY & IMPLEMENTATION ROADMAP

## NEAR TERM (< 1 Year)

High priority items for kick starting power market reforms

Undertake Security constrained unit commitment and Economic Dispatch for NTPC thermal fleet

Operationalize Ancillary Services Regulations

Introducing Resource Adequacy and Integrated Resource Planning for State/utilities

Introduce two-part bidding on e-bidding portal for short- term procurement

Mainstreaming RE participation for select capacity

Implement ToD tariff & introduce utility Demand Response program

Constitute taskforces for regulatory and operational requirements for 5-min metering, scheduling, dispatch and settlement

Market surveillance Committee to be formed

## LONG TERM (>2 Year)

Overall integration of energy and reserves

Full scale MBED implementation

LT Capacity markets to be launched

DR in capacity market + DSO formation

Entire RE on markets

## MEDIUM TERM (1-2 Year)

Introduce utility Demand response program with aggregator participation

Introduce Short-term exchange based capacity contracts

SCED and UC for IGS thermal fleet

Enabling a market for secondary reserves

Increase share of RE on markets

Implement regional level balancing framework for deviation management at ISTS level

Move to 5-min metering, scheduling, dispatch and settlement

Strengthen market monitoring functions

- Day ahead energy markets
- Ancillary services

- RE mainstreaming
- RA and capacity markets

- Demand Response and Aggregation



**PXIL**

Transforming Power Markets

**POWER EXCHANGE INDIA LIMITED**

www.powerexchangeindia.in



powerexchangeindia



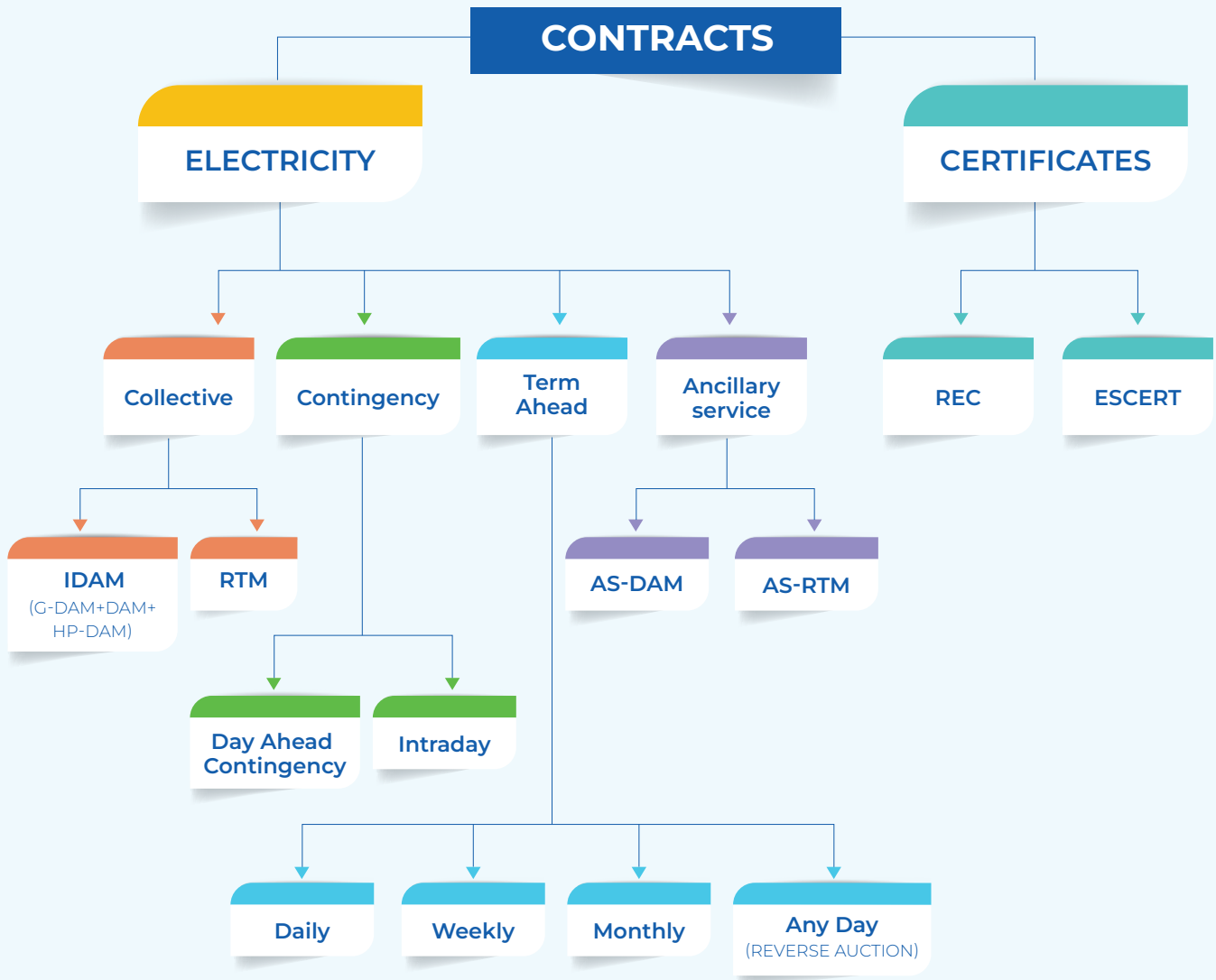
powerexchangeindia



exchange\_power



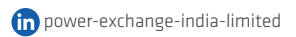
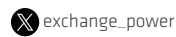
power-exchange-india-limited



Within the Electricity segment market participants transact in Conventional, High price, Solar, Wind, Hydro, and other types of Renewable energy.



We're now in 16<sup>th</sup> year



# CONTRACT INFO

Contract	Duration	Nature of Transaction	Order entry	Price Discovery
IDAM (G-DAM + DAM + HP-DAM)	96 time blocks of 15-minute duration	Collective	Double Sided Closed Bidding	Uniform Price
RTM	2 time blocks of 15-minute duration			
Intra Day	Delivery Starts 1 Hrs 45 Min under New T-GNA Regulation	Contingency (Bilateral) (Conventional, High price, Solar, Wind, Hydro, and other types of renewable Energy)	Double Sided Open Bidding	Continuous Matching
DAC	96 time blocks of 15-minute duration			
Daily	'T+2' to 'T+90' days	Term Ahead (Bilateral) (Conventional, High price, Solar, Wind, Hydro, and other types of renewable Energy)	Double Sided Open Bidding	Uniform Price
Weekly	'Week-1' to 'Week-12'			
Monthly	'Month-1' to 'Month-3'			
Any Day (Reverse Auction)	'T+2' to 'T+90' days			Reverse Auction
Ancillary service - DAM	96 time blocks of 15-minute duration	Despatch by NLDC	Single Sided Closed Bidding (Bids Collection by Exchange & Price Discovery by Grid-India)	TRAS-UP-Uniform Price TRAS-Down-Payas Bid
Ancillary service - RTM	2 time blocks of 15-minute duration			

PXIL has requested CERC to increase delivery duration up to 11-Months ahead under provisions of Temporary - General Network Access

REC Contract	Particulars	ESCERT Contract	Particulars
Validity	Till Redeemed	Validity	Valid till next PAT Cycle
Price	Demand Supply Dynamics	Price	Floor price as notified by BEE
Multiplier	Technology Specific Multiplier	Order Entry	Double Sided Closed Bidding
Order Entry	Double Sided Closed Bidding	Price Discovery	Uniform Price
Price Discovery	Uniform Price	Auction Session	PXIL Transaction Circular issued from time to time
Auction Session	PXIL Transaction Circular issued from time to time		



Transforming Power Markets

POWER EXCHANGE INDIA LIMITED

www.powerexindia.in



powerexchangeindia



powerexchangeindia



exchange\_power



power-exchange-india-limited

Scan for **E-Version**



## Power Exchange India Limited

### Mumbai

901, 9th Floor, Sumrer Plaza,  
Marol Maroshi Road,  
Andheri (East), Mumbai - 400059  
Tel: +91 22 4009 6600  
Fax: +91 22 4009 6633

### New Delhi

207, 2nd Floor, Corporate One,  
BAANI Tower,  
Jasola District Centre,  
New Delhi - 110025  
Tel: +91 11 4075 6000

[www.powerexindia.in](http://www.powerexindia.in)

