

Power Trade to support RE integration 19th Jan. 2021

IEX Market Segments

Day-Ahead Market

Since June, 08

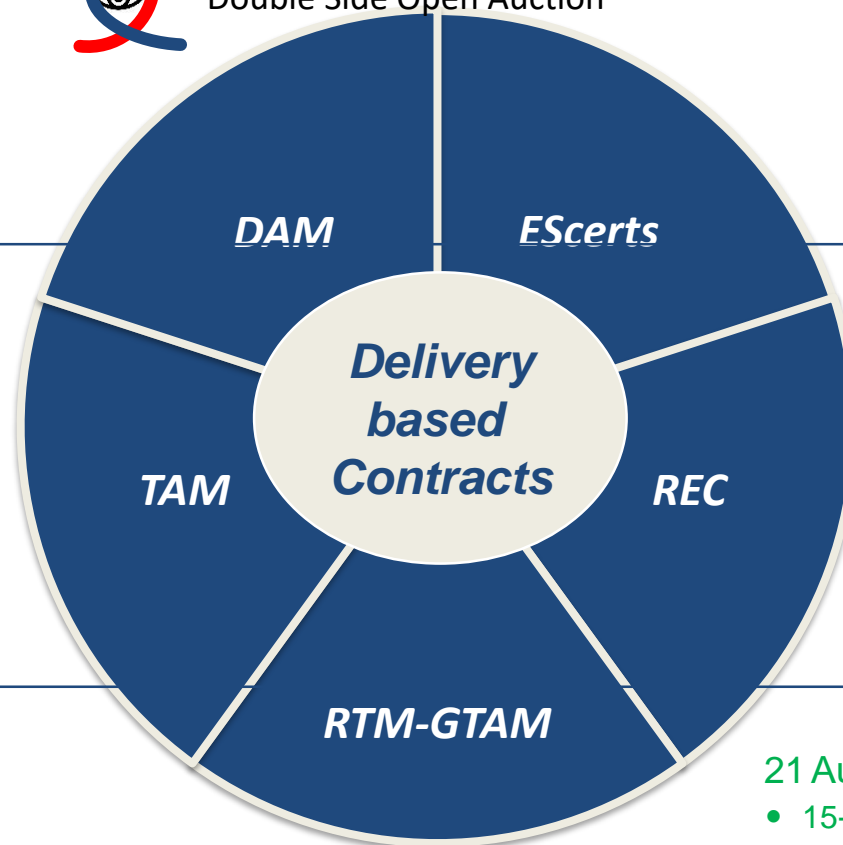
- Delivery for next day
- Price discovery: Closed , Double-sided Auction
- 15 min. contracts
- Daily trade



Continuous Trading

Double Side Closed Auction

Double Side Open Auction



Energy Saving Certificates

Since Sep., 17

- 1 Escert = 1 Mtoe (Metric Tonne Oil Equivalent)



Term-Ahead Contracts

Since Sep'09- Daily, Weekly, DAC; RTC based contracts since Jul'15

- Hourly contracts
- For delivery from 3.5 hrs. in advance up to 11 days
- Price discovery - Continuous Trade' in all except Weekly.
- In Weekly it is open auction



Renewable Energy Certificates

since Feb., 11

- Green Attributes as Certificates
- **Sellers:** RE generators not under feed in tariffs
- **Buyers:** Obligated entities; 1MWh equivalent to 1 REC



Real Time Market

Since 01 Jun'20

- Half Hourly market (48 times per day)
- Delivery for 30 minutes in two time blocks of 15 minutes each
- Double sided closed auction with uniform price



Green Term Ahead Market

21 Aug' 20 – ITD, DAC,; 4 Dec'20- Daily, Weekly

- 15-min quote of quantity (MW) and price (Rs/MWh)
- Delivery for 30 minutes
- Price discovery - Continuous Trade' in all except Weekly.
- In Weekly it is open auction
- Revision in schedule not allowed





Green Market

Need for Green Markets

- **India is seeing rapid transformation of energy ecosystem**
 - Signatory to Paris Climate Agreement 2016
 - 40% of RE energy by 2030
 - 450 GW installed RE Capacity
 - Consumer preference shifting towards green energy
- **Green Markets to facilitate:**
 - National green aspirations
 - Pan India green markets
 - Integrated approach to energy + RPO
 - Most competitive prices
 - G-TAM + RTM to support RE integration
- **Green term-ahead Market: Solar & Non-Solar Contracts:**
 - Intraday
 - Day ahead Contingency
 - Daily Contracts
 - Weekly contracts



Building India as a Sustainable Energy Economy

GTAM : Performance Snapshot

VOLUME (MU/GWh)



Category	Total	Average
Buy (MU)	1221	8.14
Sell (MU)	1412	9.4
Cleared (MU)	603	4.02

Max. Cleared Volume in a day-22.11 MUs

Price (Rs/ Unit)



Average: 3.75

Min: 2.82

Max: 6.00

Participants

Buyers:

15 Discoms (BRPL, CESC, DNH, Haryana, TPCL, DVC etc.) and 15 consumers (Vedanta, Jindal, Grasim etc)

Sellers:

2 Discoms (PCKL & Telangana) and 12 generator

Days



- Intraday and DAC since 21st Aug'20.
- Daily and Weekly since 4th Dec'20.
- Trading on all Days since Inception.

- ✓ Max Buy Volume in a day- 29 MUs
- ✓ Major Discoms- Haryana, CESC, TPCL, DVC, BRPL
- ✓ Major OA: Grasim, Vedanta Limited, Jindal Stainless Steel, and Tata Steel.
- ✓ Top 5 discoms trade almost 78% of the total cleared Volume.

- ✓ Max Sell Volume in a day- 31 Mus
- ✓ Major Discoms- Telangana and PCKL
- ✓ Major RE Generators- Choudhary Power, Narmada Sugar, , Amplus
- ✓ Telangana trades almost 88% of the total cleared Volume.

There is low liquidity in GTAM as of now; sufficient demand available at buy side.

*Till 17th Jan' 20

- Waiver of ISTS Losses & Charges for transactions in exchange green contracts
- Allow RE Generators to purchase power from Market to manage intermittency
 - RTM market to be used for managing forecasting deviation
- Uniform Regulatory & Policy framework across the States
- Flexibility in existing REC market allowing dynamic/ interchangeability status as compared to existing rigid structure.

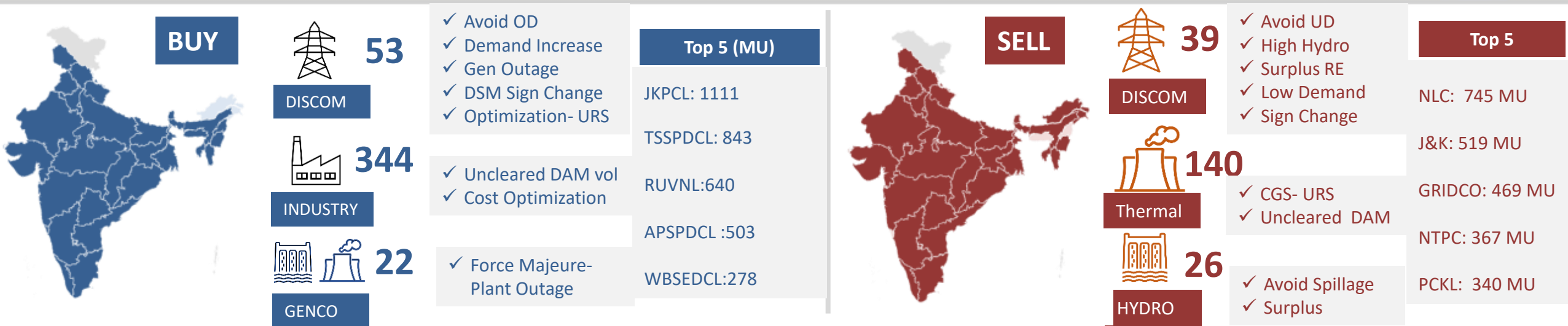


Real Time Market

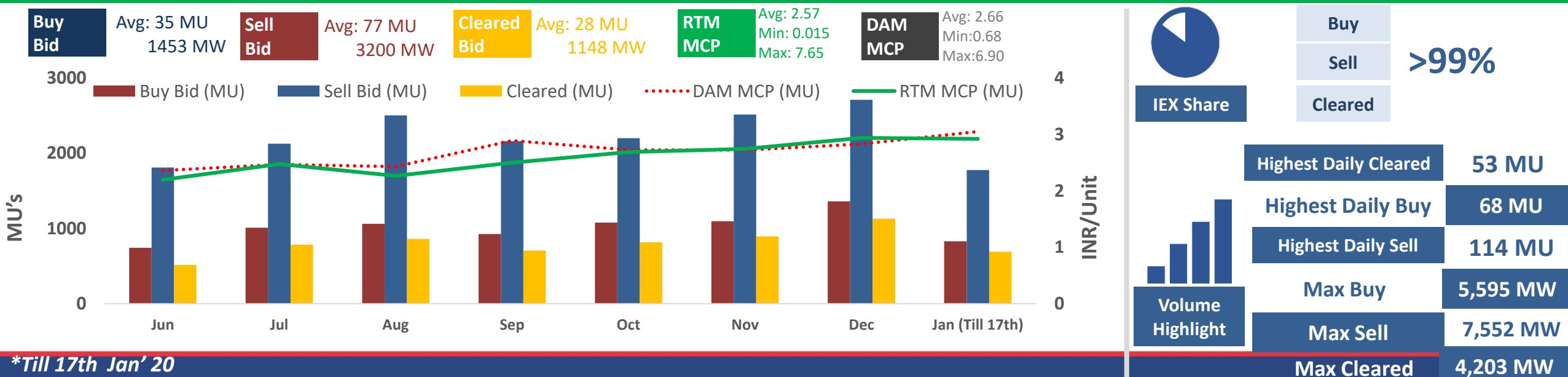
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Real Time Market – Performance Snapshot

PARTICIPATION



IEX MARKET SNAPSHOT



*Till 17th Jan' 20

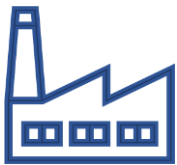
Benefits of RTM

BUYER



DISCOM

- ✓ Reduce overdrawl/sign change penalty
- ✓ Manage variation in RE generation
- ✓ Handle sudden demand increase
- ✓ Better response to generation Outage
- ✓ Optimization- SGS/URS



INDUSTRY

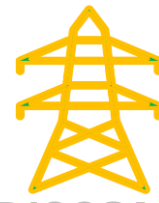
- ✓ Uncleared DAM Vol
- ✓ Cost Optimization
- ✓ Manage demand variation



GENCO

- ✓ Meet Schedule commitment - Plant outage

SELLER



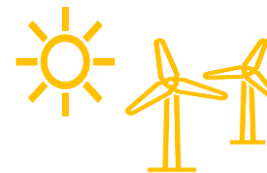
DISCOM

- ✓ Avoid under drawal/ sign change penalty
- ✓ Manage demand drop
- ✓ Manage increase in RE generation
- ✓ Immediate payment



GENCO

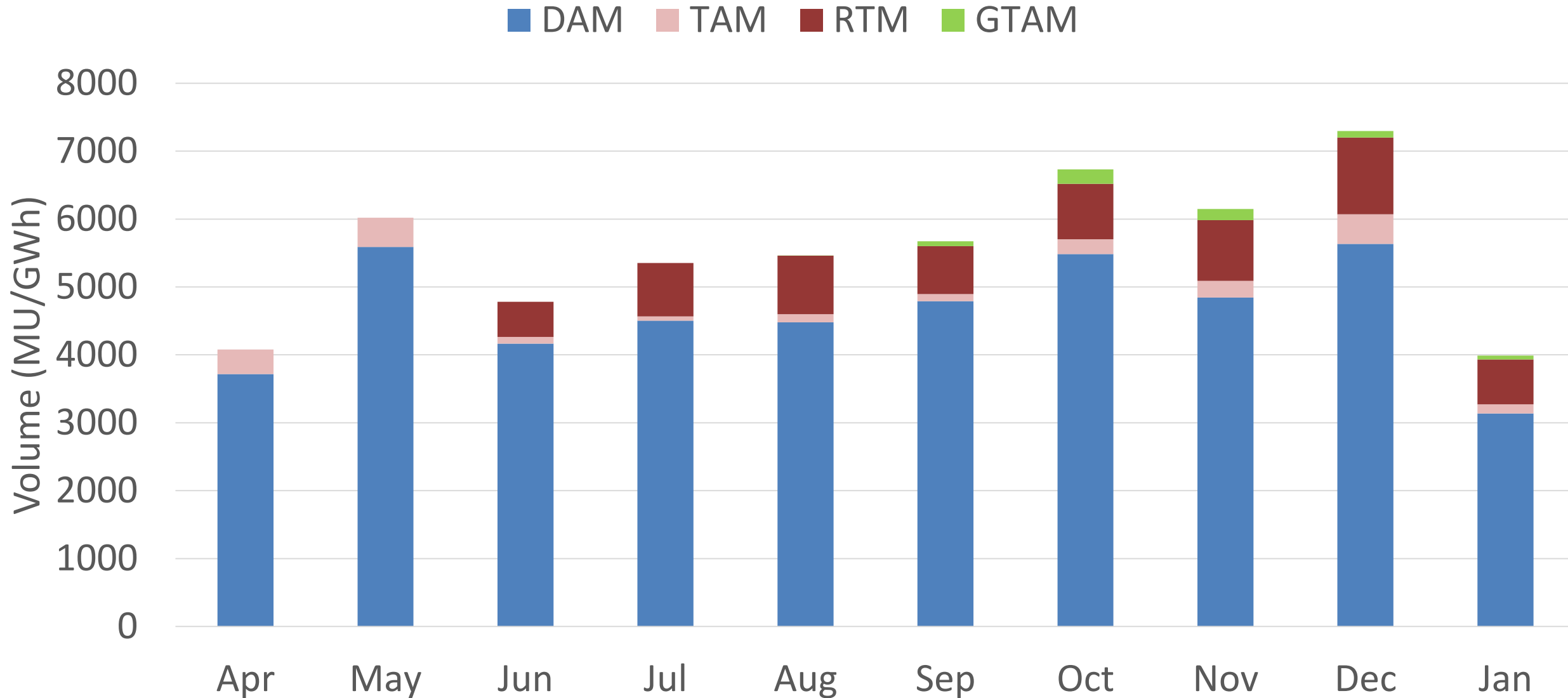
- ✓ Uncleared DAM volume
- ✓ Thermal
 - ✓ URS Sell - improve PLF
- ✓ Hydro
 - ✓ Must Sell- Spillage
- ✓ Immediate Payment



RENEWABLE

- ✓ Despatch close to Real Time
- ✓ Optimize number of revision
- ✓ Avoid DSM
- ✓ Immediate Payment

All Power Market Segments Volume (FY21)



***Till 17th January 2021**

Thank You

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IEX Communication



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available on Android and IOS



Daily SMS

