



IEEX
INDIAN ENERGY EXCHANGE
India's **No.1** Power Exchange

Research by MJK Finvestment
Analyst: Aman. M

Power Genco:
Companies like
NTPC,NHPC,Tata
Power,Reliance Power.

Nearly 55% is under
STU,38% is owned
by Power Grid,8%
by private sector.

DISCOMS: Torrent
Power,SEB,DGVCL.

Industries,DISCOMS.



Generation
De-licensed

Private
sector ~46%

Generation
in distress

Transmission
is licensed

World's largest
network

Pvt sector
~8%

Distribution
licensed

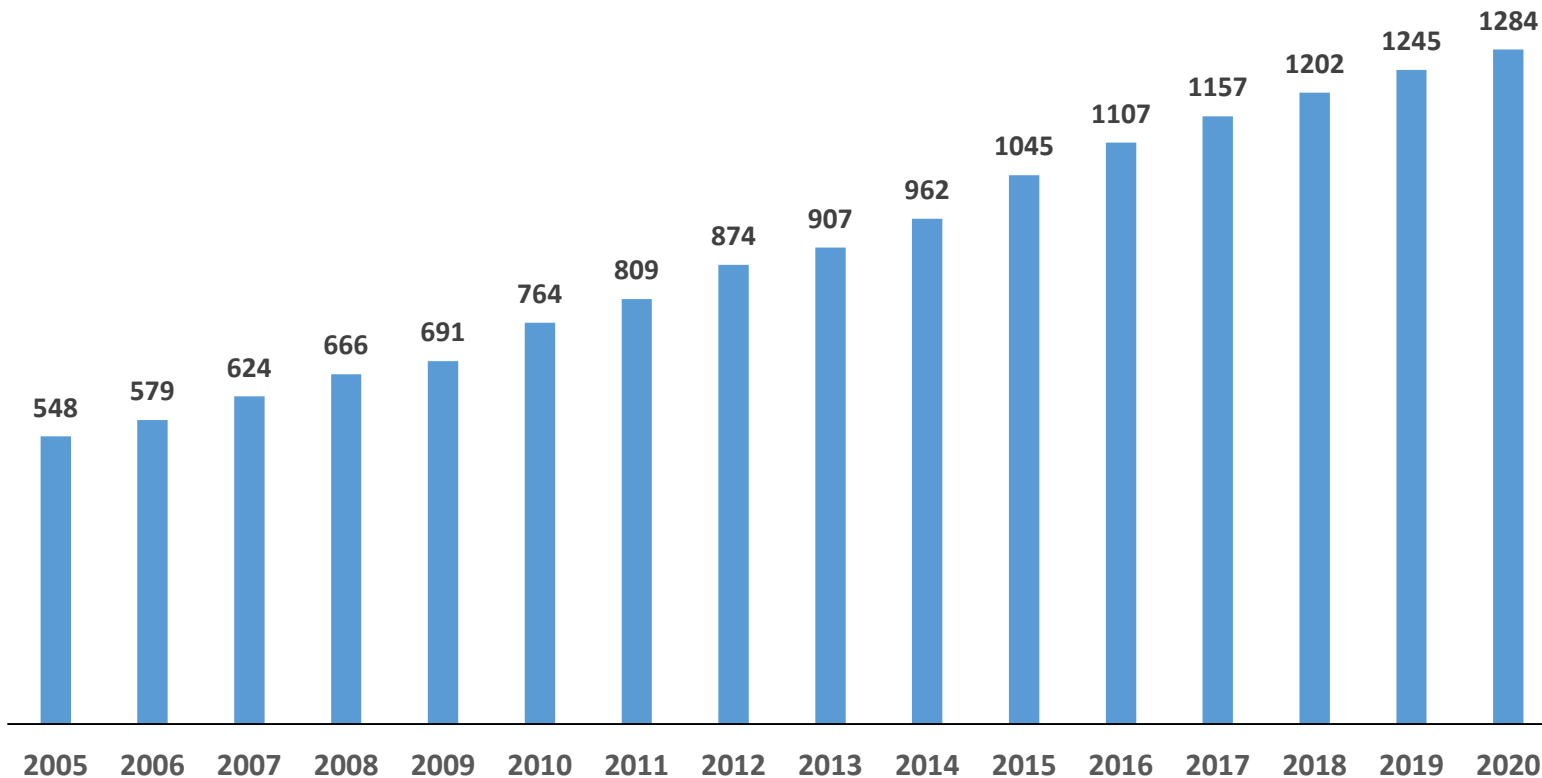
Rs 91,284 Cr O/S
as of March
2020*

AT&C Loss

Energy
deficit
decreased
from 10%
to 0.5%
over the
last decade

ELECTRICITY GENERATION

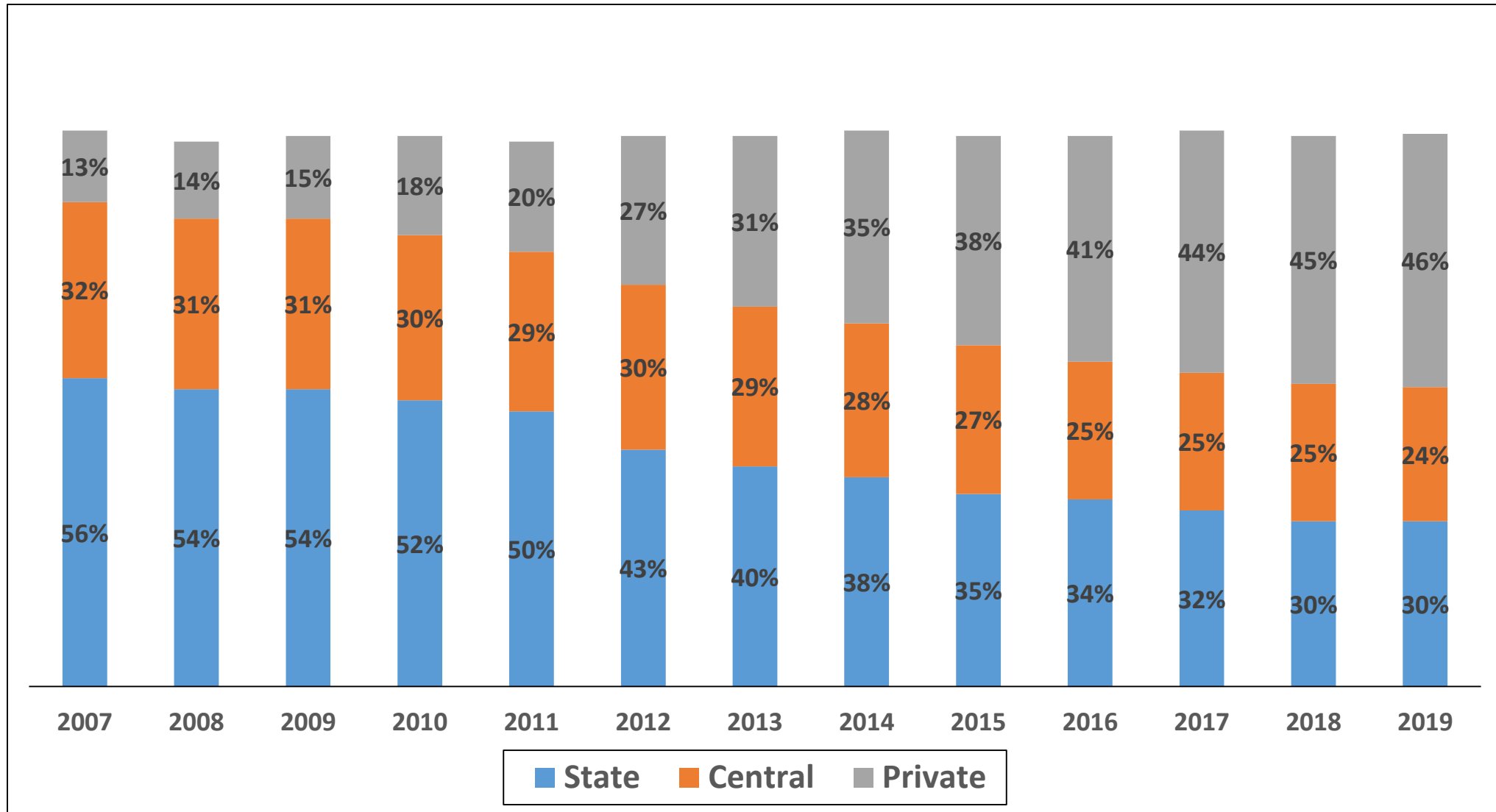
Total Electricity Generaion(BU)



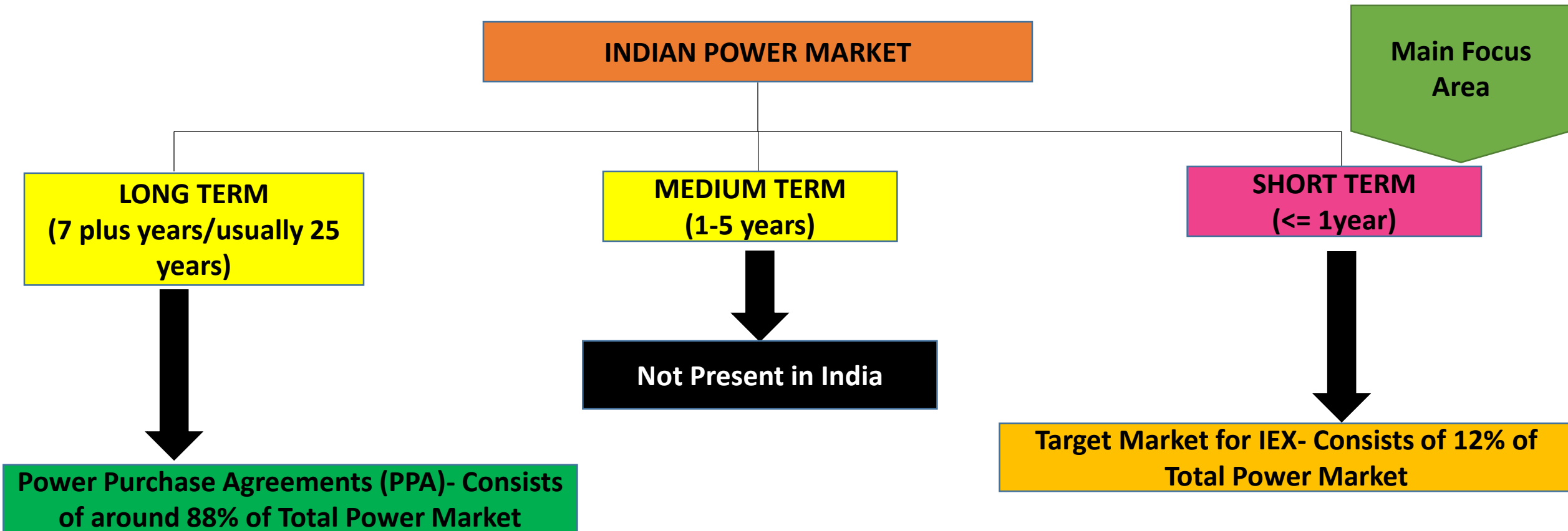
*BU- Billion Units

- ❖ Electricity Generation had grew at a CAGR of 5.8% over last 15 years.
- ❖ The major part of the generation is from Thermal power plants.
- ❖ The generation is expected to grow at the same 5-6% over a long period.
- ❖ The overall generation in the country increased by 0.8% over last year with conventional power generation recording de-growth of 2.8% and renewable power generation clocking 8.4% growth.

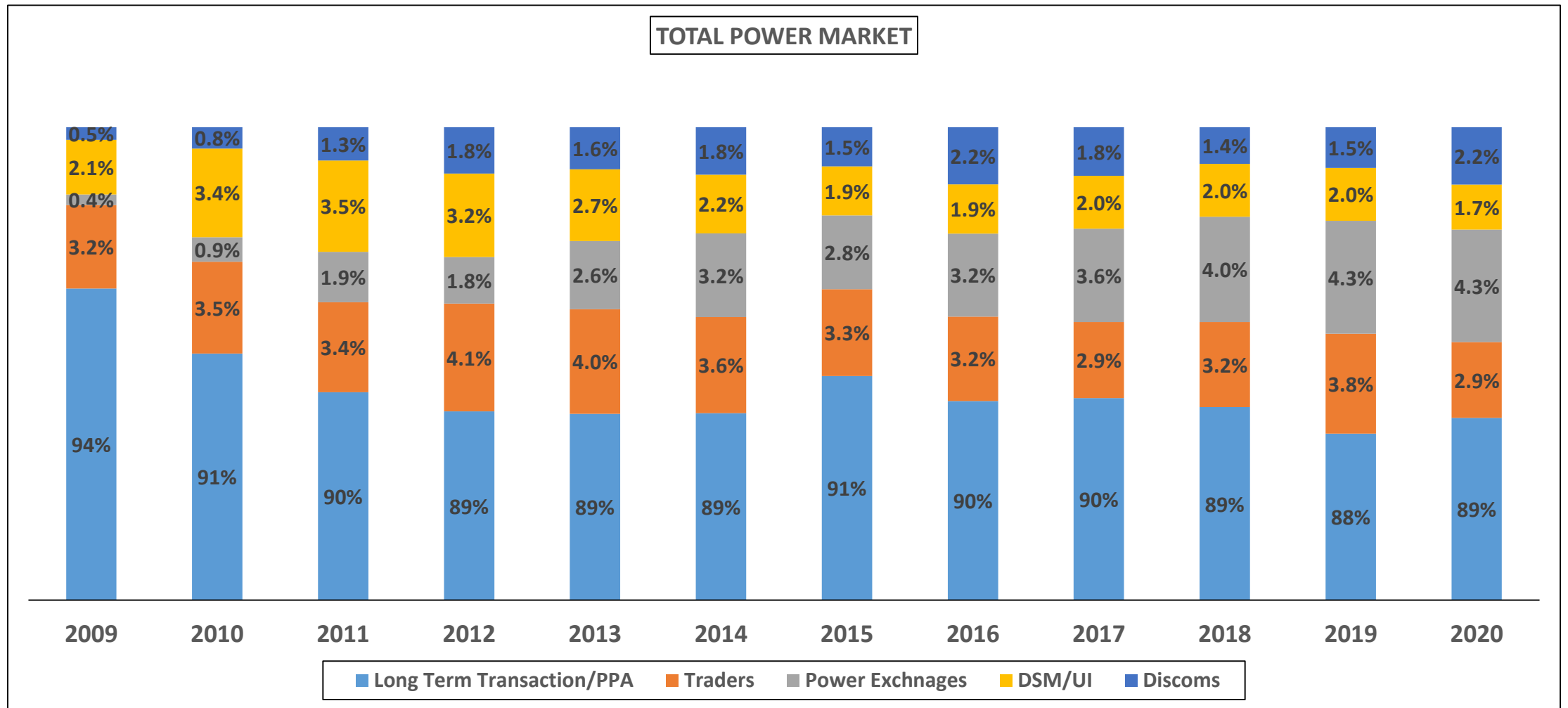
SHIFT IN INDIAN ELECTRICITY GENERATION



CONTRACTS IN ELECTRICITY MARKET`



TOTAL POWER MARKET

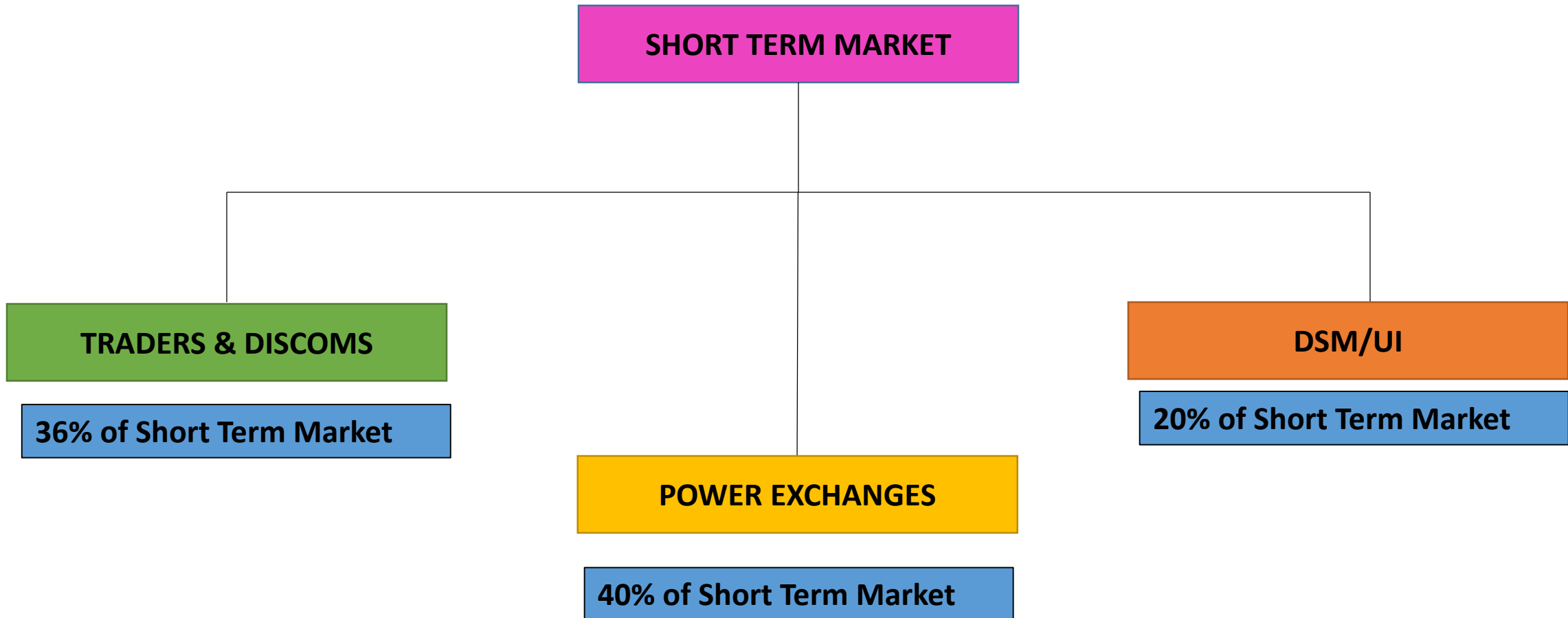


LONG TERM POWER PURCHASE AGREEMENT(PPA)

- ❖ Thermal Power Plants gets into a contract of 25 years to sell electricity to DISCOMS.
- ❖ The methodology of sale is fixed.
- ❖ The prices are high as compared to Short Term Market.
- ❖ DISCOMS used to enter PPA only to get assured power supply because previously there was a mismatch and demand was not fulfilled.
- ❖ But now as the congestion has almost become negligible there is assured power supply which make DISCOM to fulfill their demand from Power exchanges or Traders.
- ❖ Previously, coal was supplied only to those power plants which had a PPA but at present this is not the case.

***PPA- Power Purchase Agreement**

SHORT TERM MARKET



PLAYERS IN SHORT TERM MARKET

TRADERS

- ❖ Traditional way of transacting.
- ❖ No Real Price Discovery.
- ❖ No Exposure to larger market.
- ❖ It is carried on by various Trading licenses in India.
- ❖ Highest Market Clearing Prices.

POWER EXCHANGES

- ❖ Modern way of transacting.
- ❖ Large number of participants.
- ❖ Efficient and Real Price discovery.
- ❖ Formal and Organized way of transacting.
- ❖ Lowest Market Clearing Prices.

DIRECT B/W DISCOMS

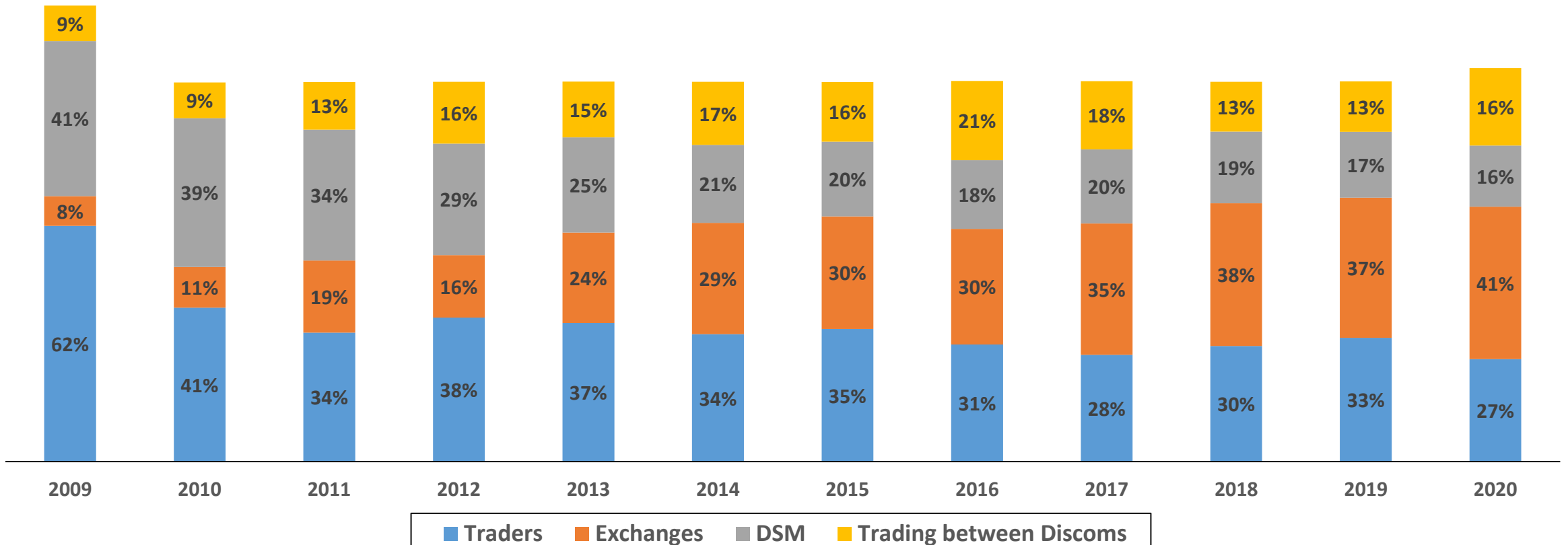
- ❖ Trading directly b/w discoms.
- ❖ Just two parties involved no intermediary.
- ❖ Inefficient Price Discovery.
- ❖ Unorganized way of transacting.
- ❖ Higher Market Clearing Prices.

DSM/UI

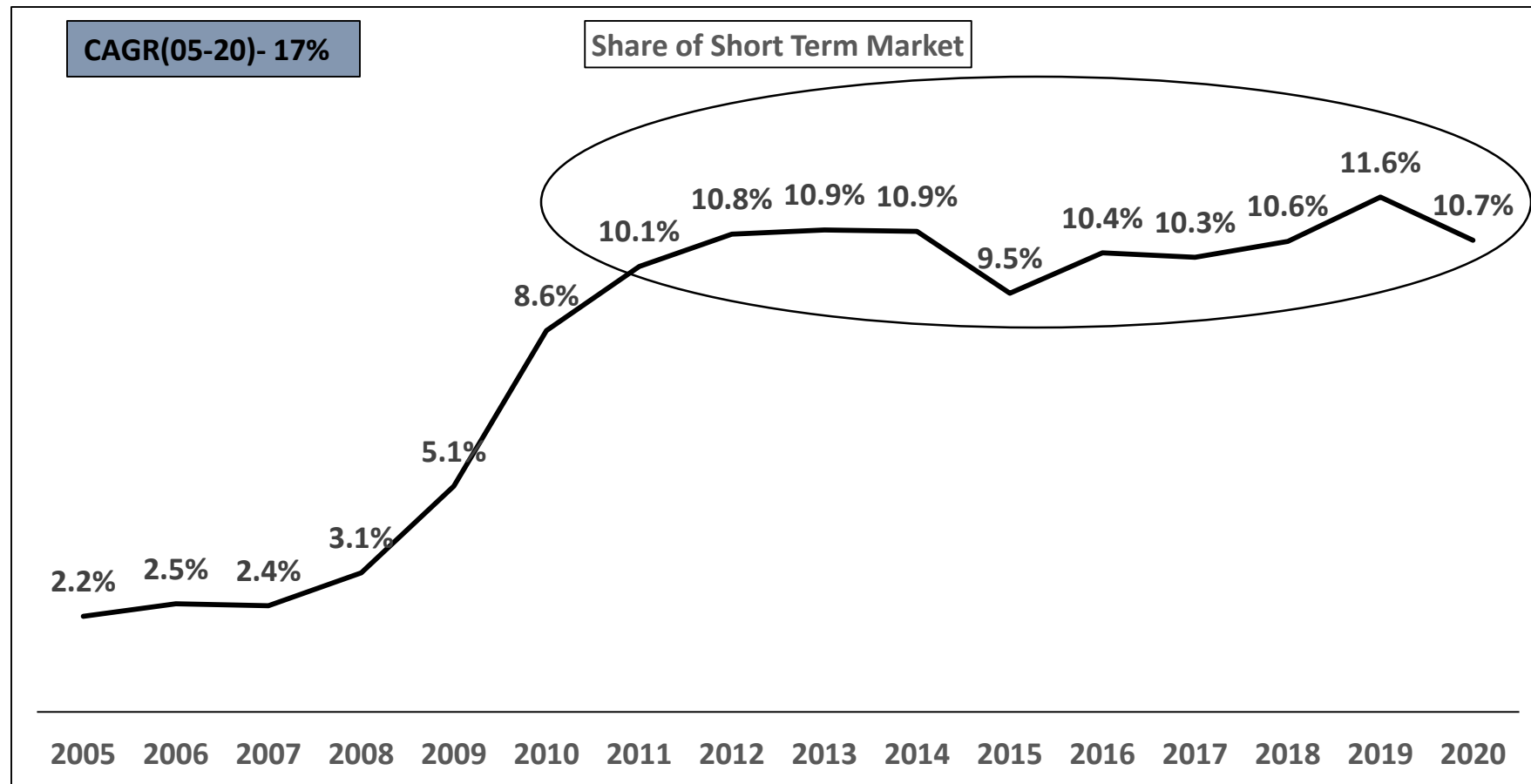
- ❖ Deviation Settlement Mechanism means trading last minute power imbalances.
- ❖ It is not a go to way.
- ❖ Going forward the complete portion of DSM will shift to IEX.

SHORT TERM MARKET PLAYERS

MARKET SHARE IN SHORT TERM MARKET



SHORT TERM MARKET



DEVIATION SETTLEMENT MECHANISM

14th August 2020



1 BU

SLDC

1 BU



15th August 2020

If NTPC is able to fulfill the extra demand of Torrent then it will receive incentives

Torrent power demands 1.1 BU instead of 1 BU



1.1 BU

SLDC

1.1 BU

NTPC will rec incentives

Torrent will pay deviation charges



*SLDC- State Load Dispatch Center

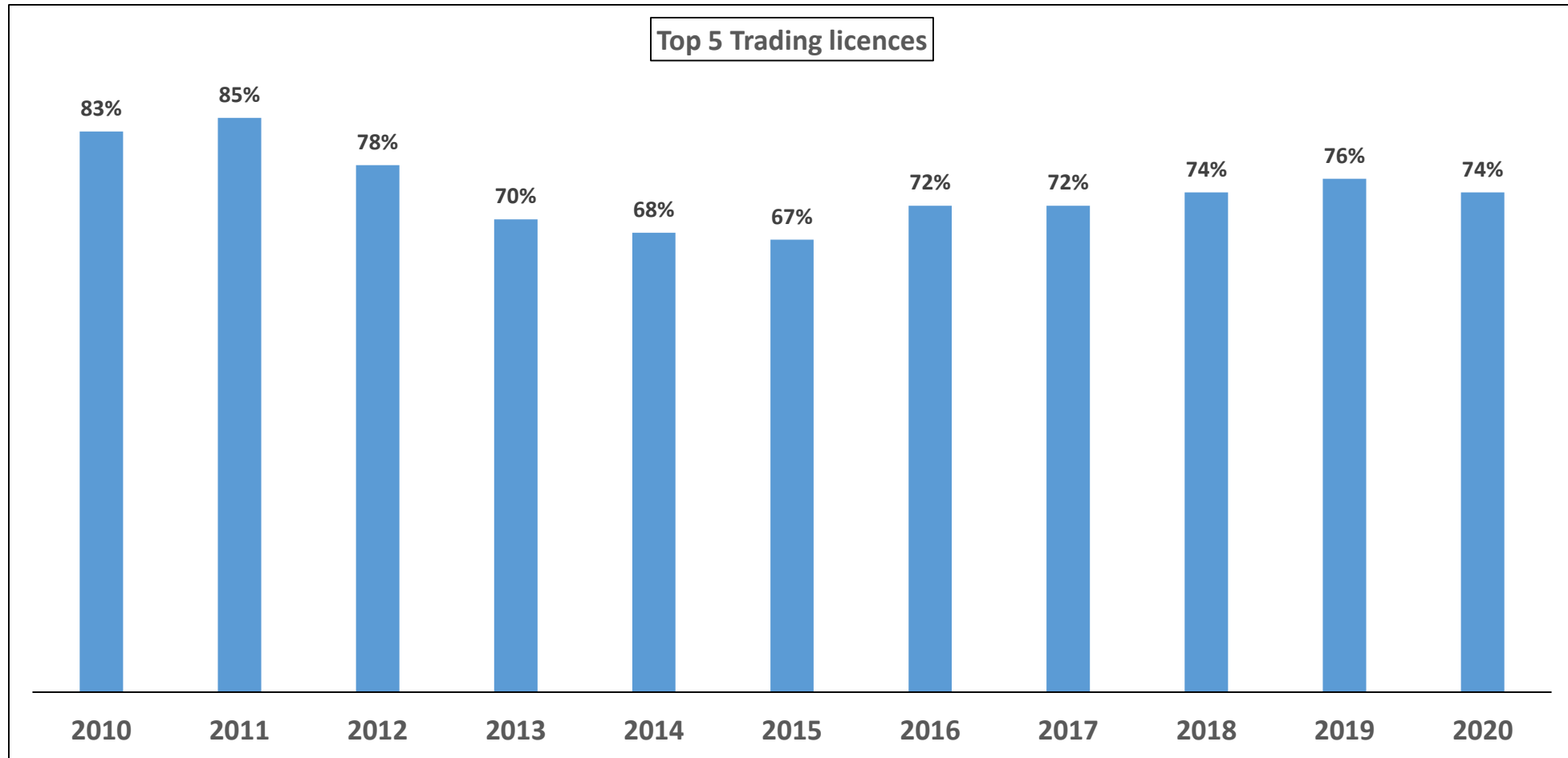
DEVIATION SETTLEMENT MECHANISM(DSM)

WHAT IS DSM?

- ❖ It is the Difference Between Scheduled power and real demand.
- ❖ One day before SLDC will inform RLDC about the demand in their region, on the next day if the demand is more then DSM charges has to be paid.
- ❖ CERC discourages DSM by imposing higher penalties on higher volumes as It poses a threat to security of the grid.

Particulars	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DSM Volumes(BU)	14	26	28	28	25	21	19	21	23	24	25	22
DSM as a % of Total Market	2.10%	3.40%	3.50%	3.20%	2.70%	2.20%	1.90%	1.90%	2.00%	2.00%	2.00%	1.70%

SOME FEW TRADERS CONTROLLING WHOLE MARKET



***Share of Electricity transacted by Traders**

IEX - BUSINESS MODEL



Business Model:



IEX - HISTORY

FTIL(41%) and PFS(26%) promoted IEX in 2008 after receiving approval from CERC

2008

FTIL was forced to sell stake after scam at MCX

2013

Acquired technology platform in house from 63 moons.

2017

2017

2020

PFS sold stake to private equity firms post order from CERC.

IEX came with a IPO and got listed

Incorporated IGX and launched RTM



EXCHANGE- “A COMPETITIVE MARKET” AND HEAVILY REGULATED SECTOR

- ❖ Exchanges provide a transparent, efficient and competitive platform for transactions in any market-Stock or commodity. Same is true for power.
- ❖ The concept of power exchanges was initially introduced in Europe during 1990-91.
- ❖ Worldwide power exchanges are operating in 40 countries worldwide.
- ❖ In India after Electricity Act, 2003 market framework for exchanges was put in place.
- ❖ Exchanges in India started operations from 2008.

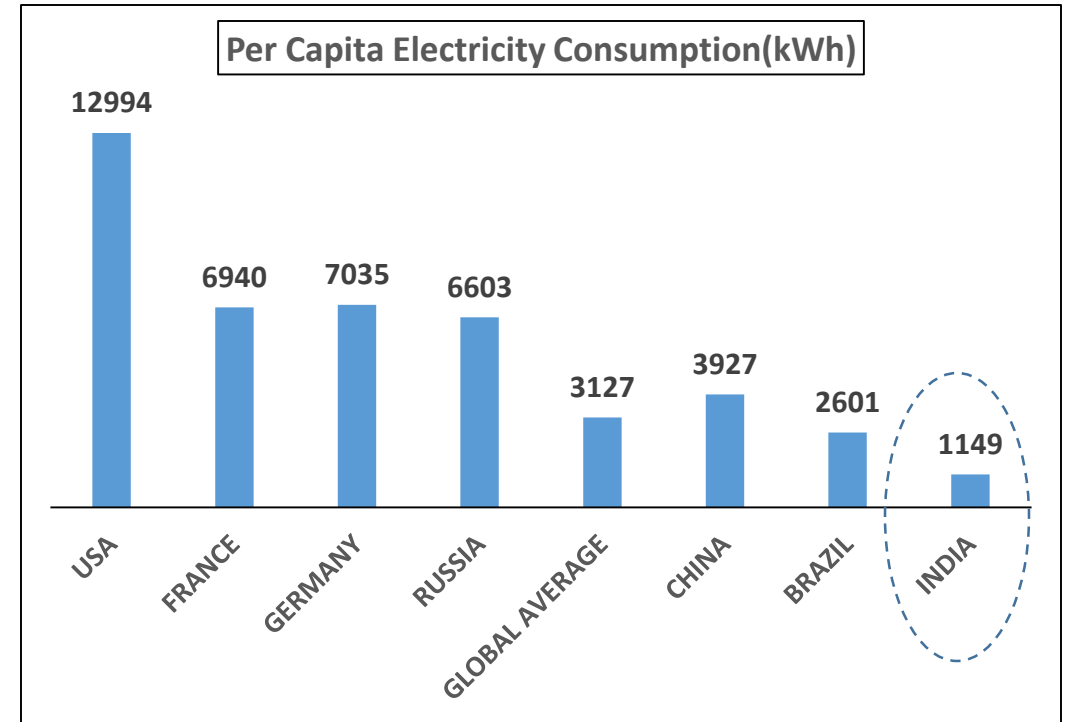
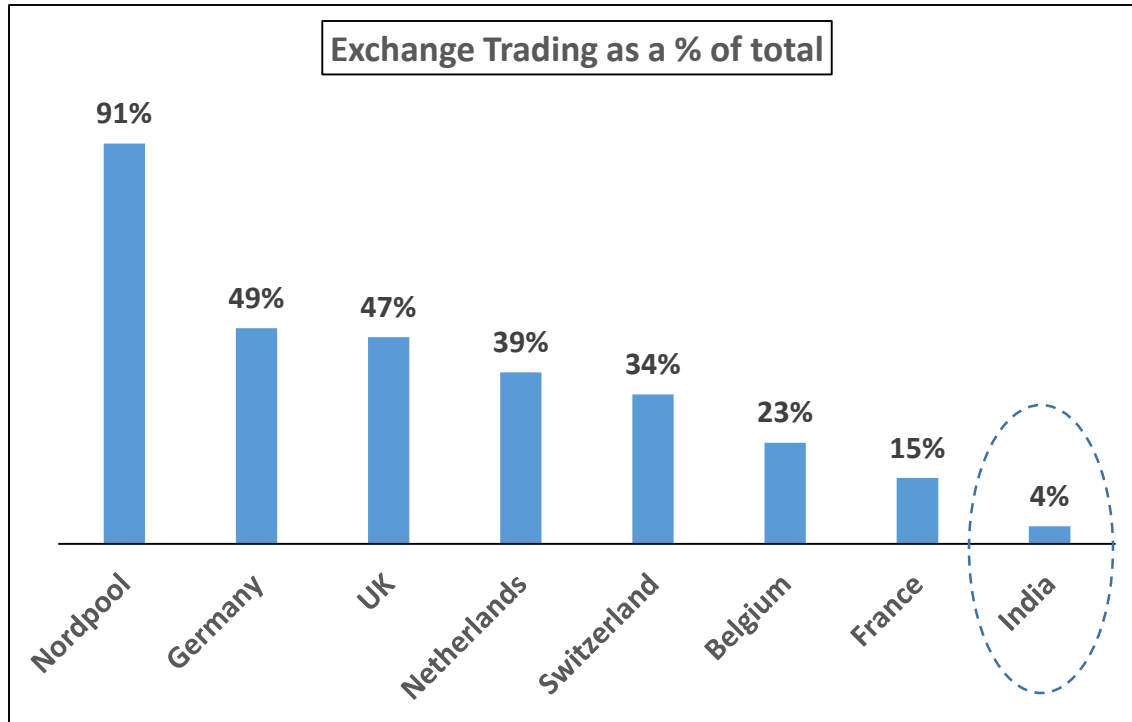
Enacted Electricity Act 2003 and laid down various guidelines:

- ❖ CERC is the regulator at Centre level and SERC are respective state authorities.
- ❖ Shift from single buyer model to multi buyer model
- ❖ De-licensing of Thermal Generation
- ❖ Grant of open access in transmission and distribution
- ❖ Main aim is to promote development of markets in electricity.
- ❖ In India after Electricity Act 2003, the framework for exchanges was put in place.

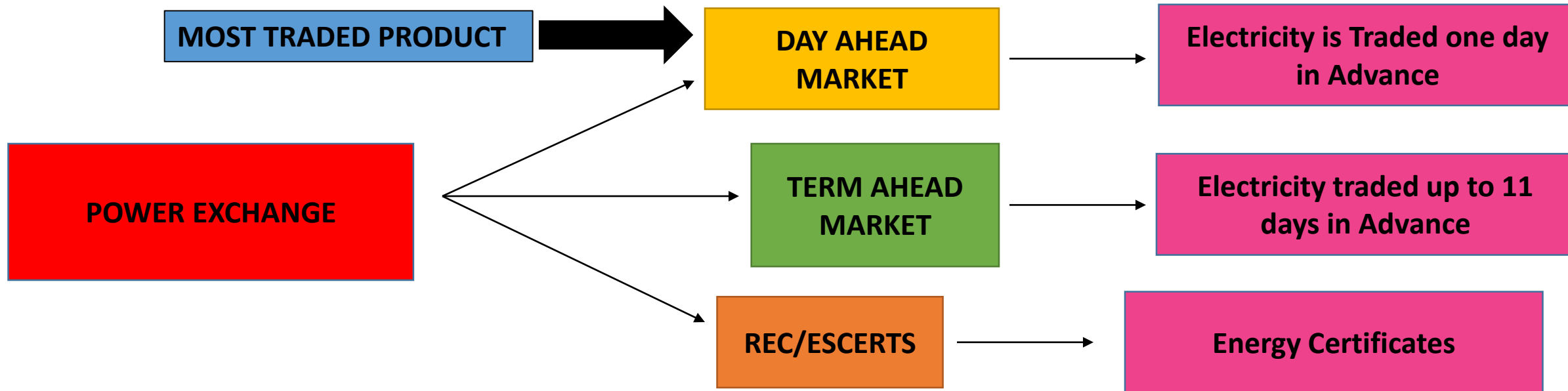
PARTICIPANTS ON IEX

- ❖ **Power Generators(Coal, Hydro, Solar, Wind etc.)**
- ❖ **Distribution companies**
- ❖ **Industry Units-Buyers**
- ❖ **Industry Units Sellers(Sugar mills, rice mills, heat energy platforms etc)**

INDIA - HUGE GROWTH OPPORTUNITY

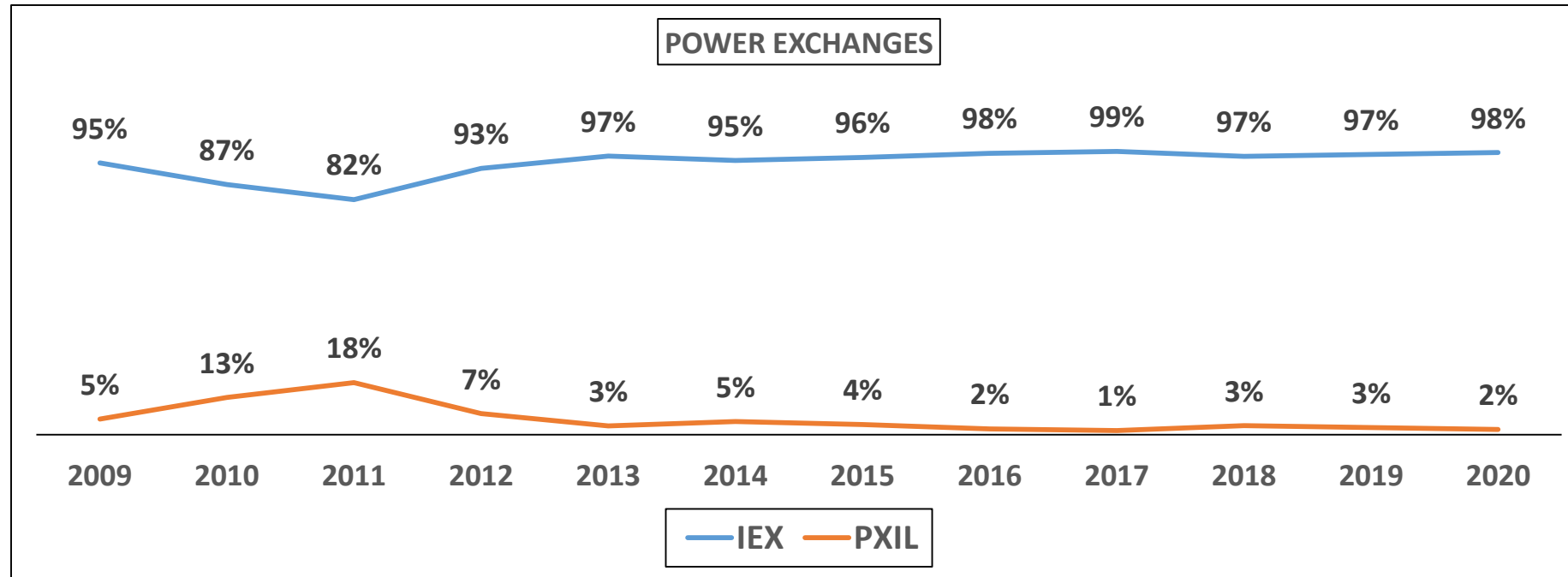


IEX - PRODUCTS



***REC- Renewable Energy Certificates**

IEX - MONOPOLY

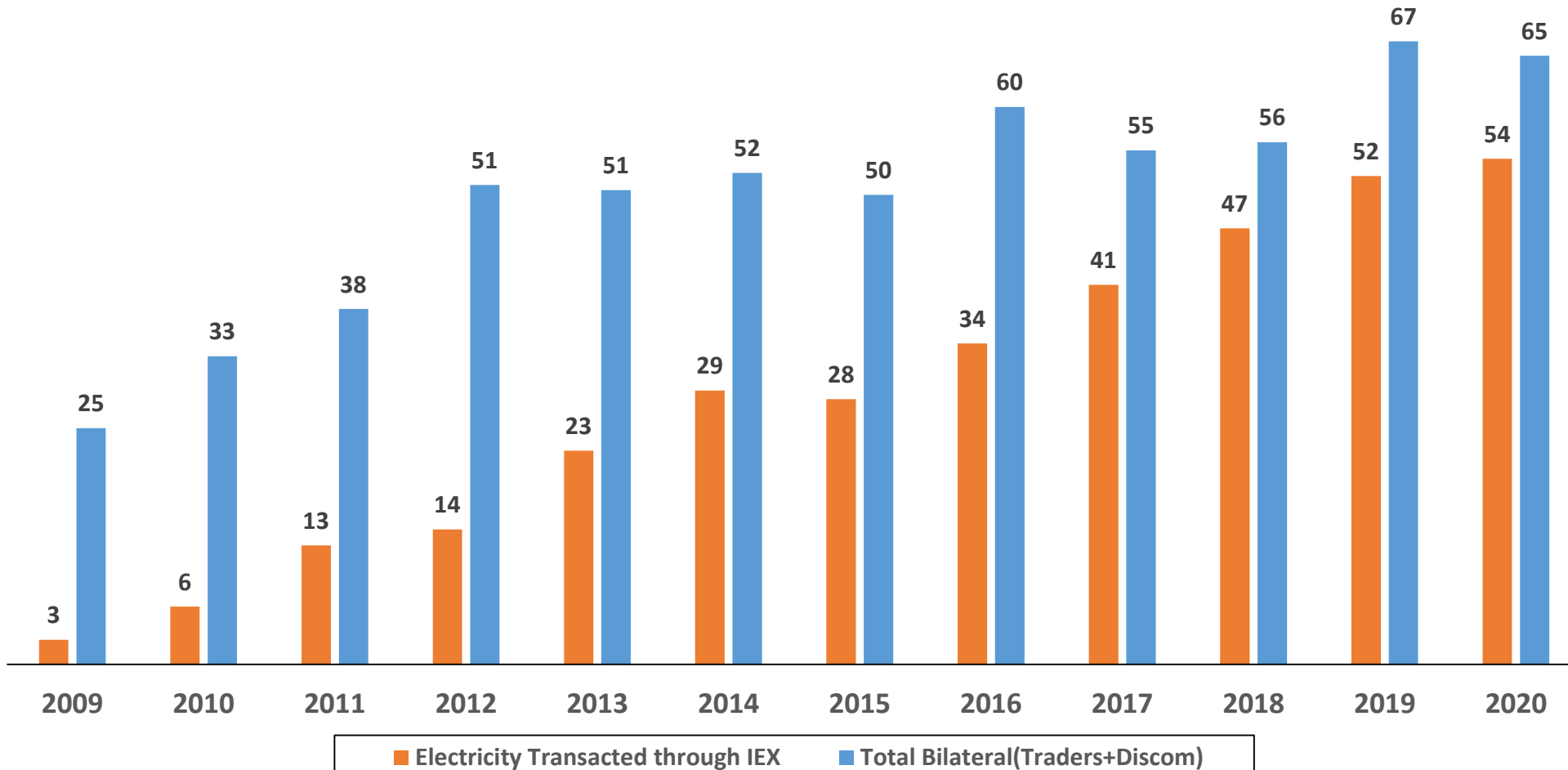


Upcoming new
exchange:

PTC India gets nod to set up
third power exchange; launch
likely by next FY

IEX - GAINING VOLUMES

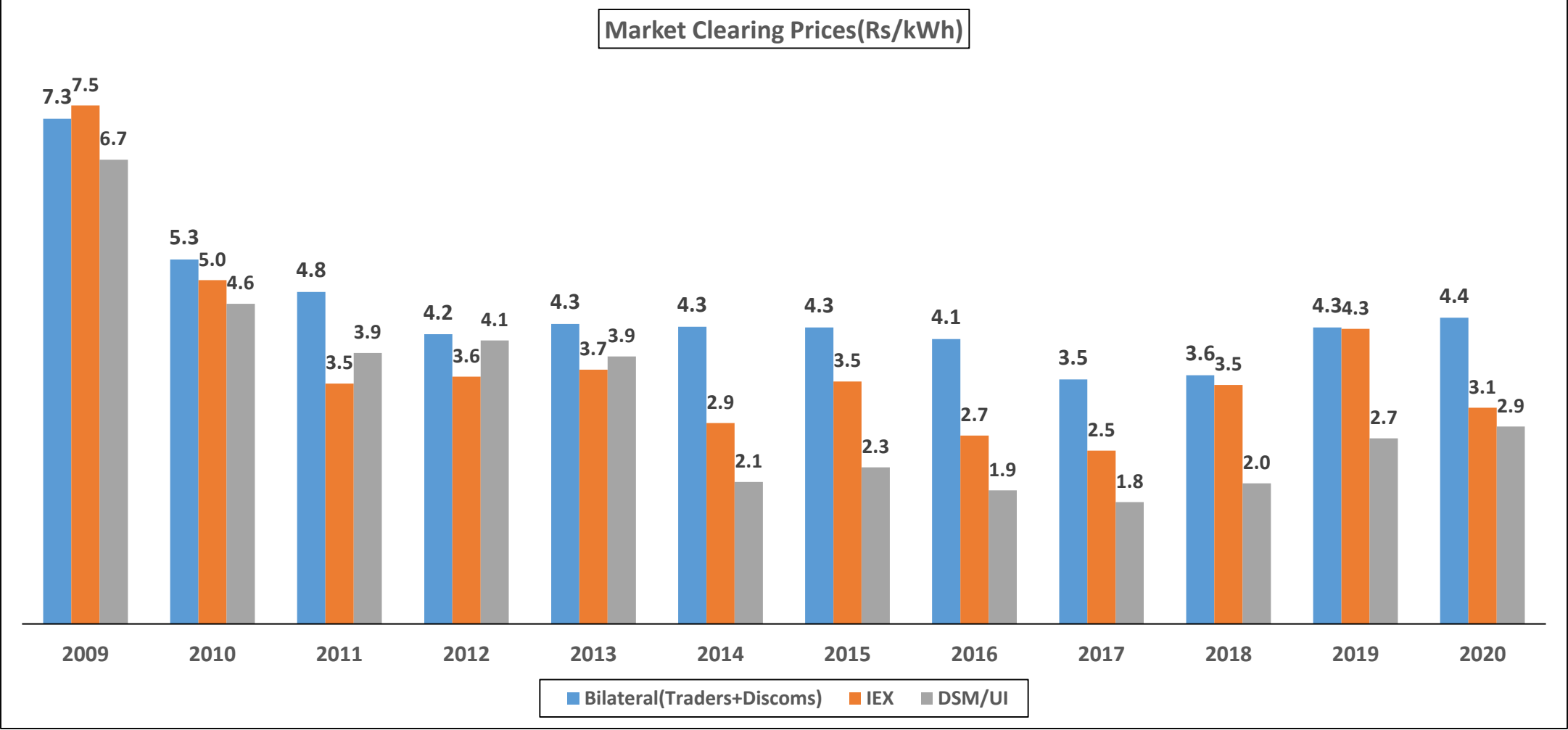
ELECTRICITY VOLUMES (IN Billion Units)



Bilateral:
CAGR(09-20)- 9%
CAGR(15-20)- 5%

IEX:
CAGR(09-20)- 32%
CAGR(15-20)- 14%

MARKET CLEARING PRICES



DISCOMS ALSO FAVOURING IEX

Providing significant savings to DISCOMs



In April, the first full month of the lockdown, national power demand crashed by 25% year-on-year. Photo: Indranil Bhoulmik/Mint

“Power utilities turn to cheaper exchange power as prices crash” – Live Mint – May 28, 2020

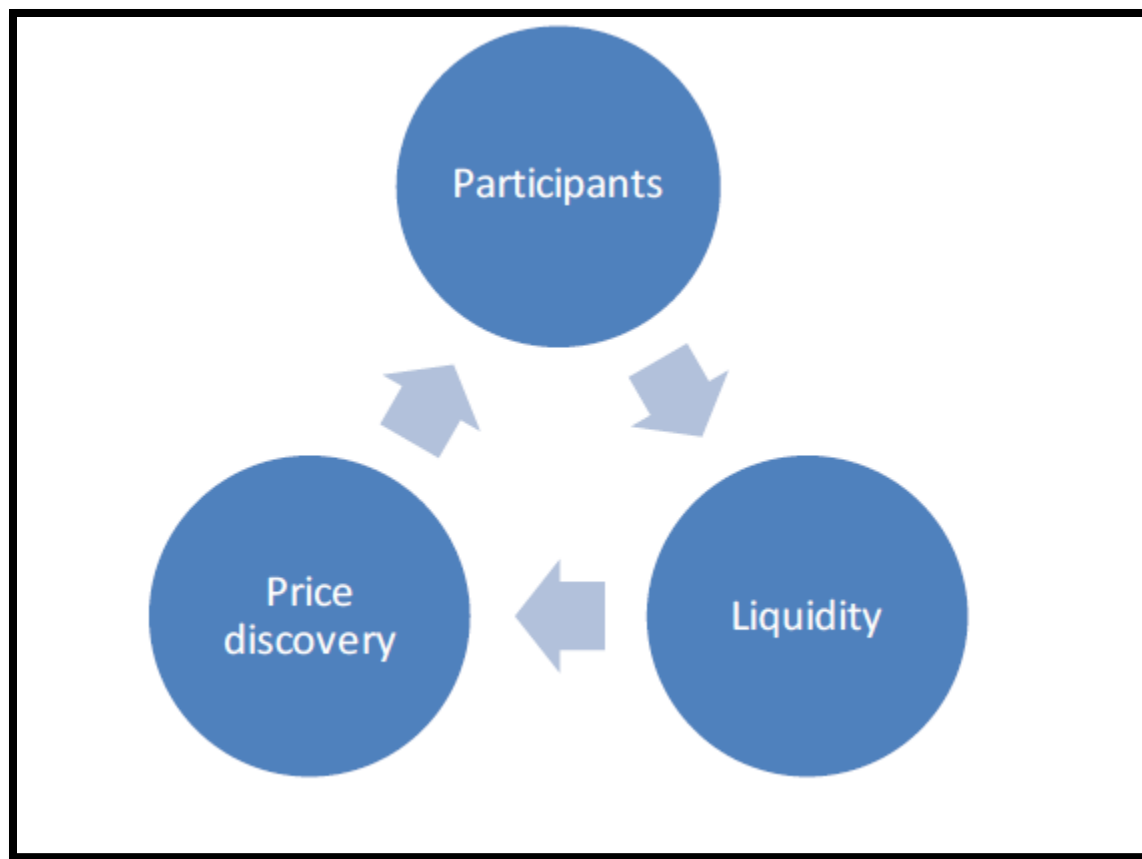
“We’ve been doing this for 6-7 months at APTransco, and we managed to save ₹500 crore in FY20. We were well placed to maximise this benefit when spot prices fell on the exchange during the lockdown in March and April. We saved ₹56 crore and ₹132 crore in those two months. We were able to buy power for as low as ₹1.8 a unit at one point.”

“Maharashtra discoms turn to energy exchanges, shun costly PPAs” – PTI – April 12, 2020

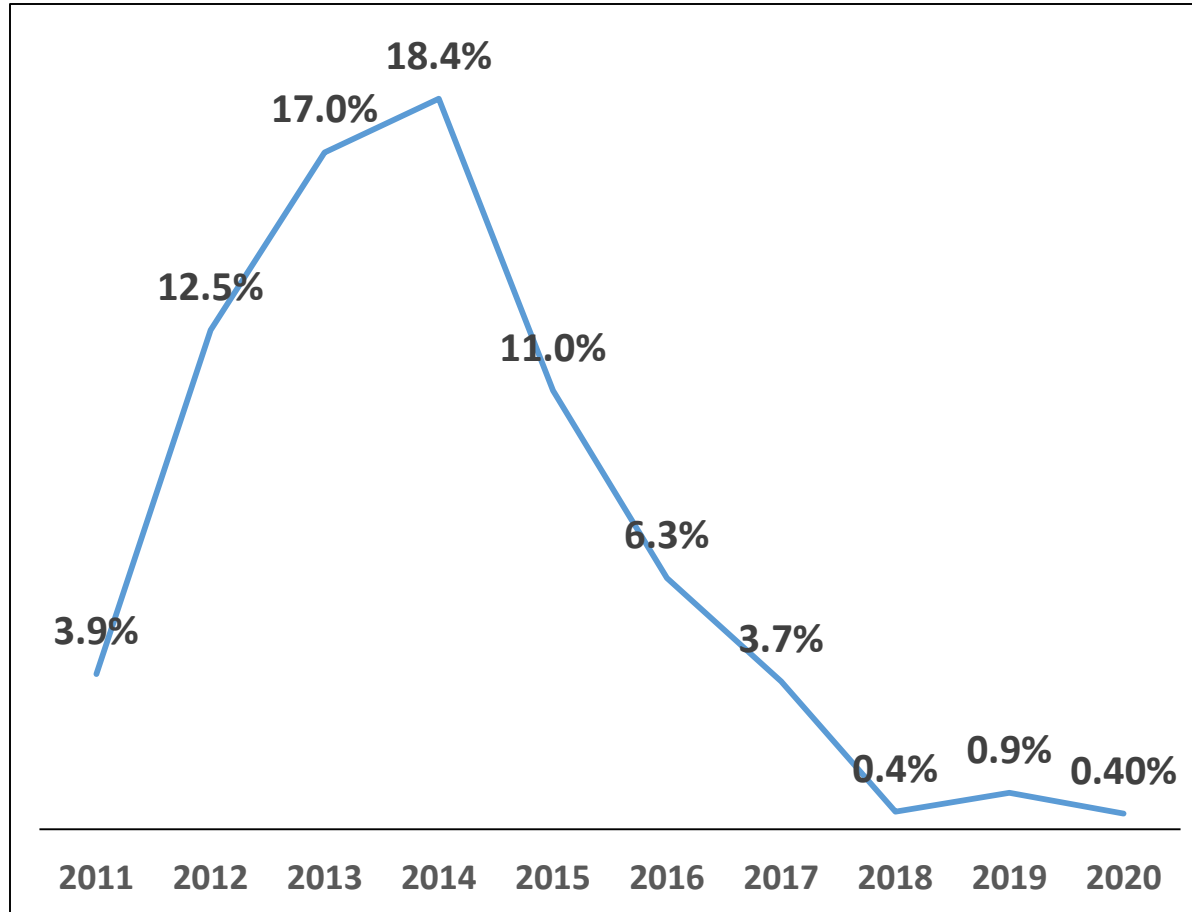
“We are increasingly buying power from exchanges, which is cheaper than PPA tariffs,” an official from state utility Mahavitaran



IEX - NETWORK EFFECT



REDUCTION IN TRANSMISSION CONGESTION



- ❖ Over the years the volumes that could not be cleared on IEX because of congestion has reduced.
- ❖ This is mainly because of improvement in transmission infrastructure.
- ❖ This is an important factor for IEX and making it more favorable for electricity trading.

IEX - CLIENTS

IEX Members and Clients: All major PSUs and Industries



- Our customer base

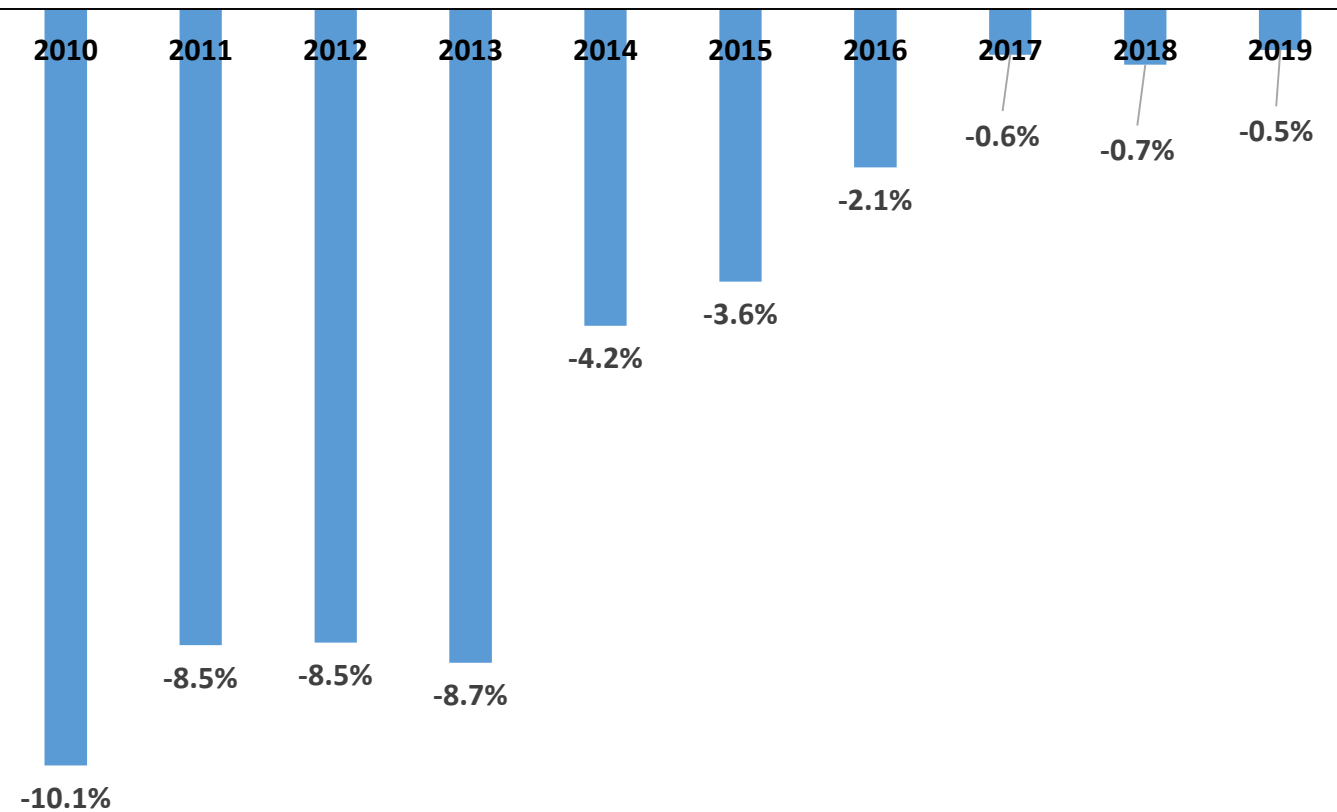
4000+ Industries | **55+** Discoms (all) | **100+** ESCert Entities

500+ Generators | **1500+** RE Generators & Obligated entities

REASONS WHY DISCOMS WILL SHIFT TO SHORT TERM MARKET OR POWER EXCHANGE?

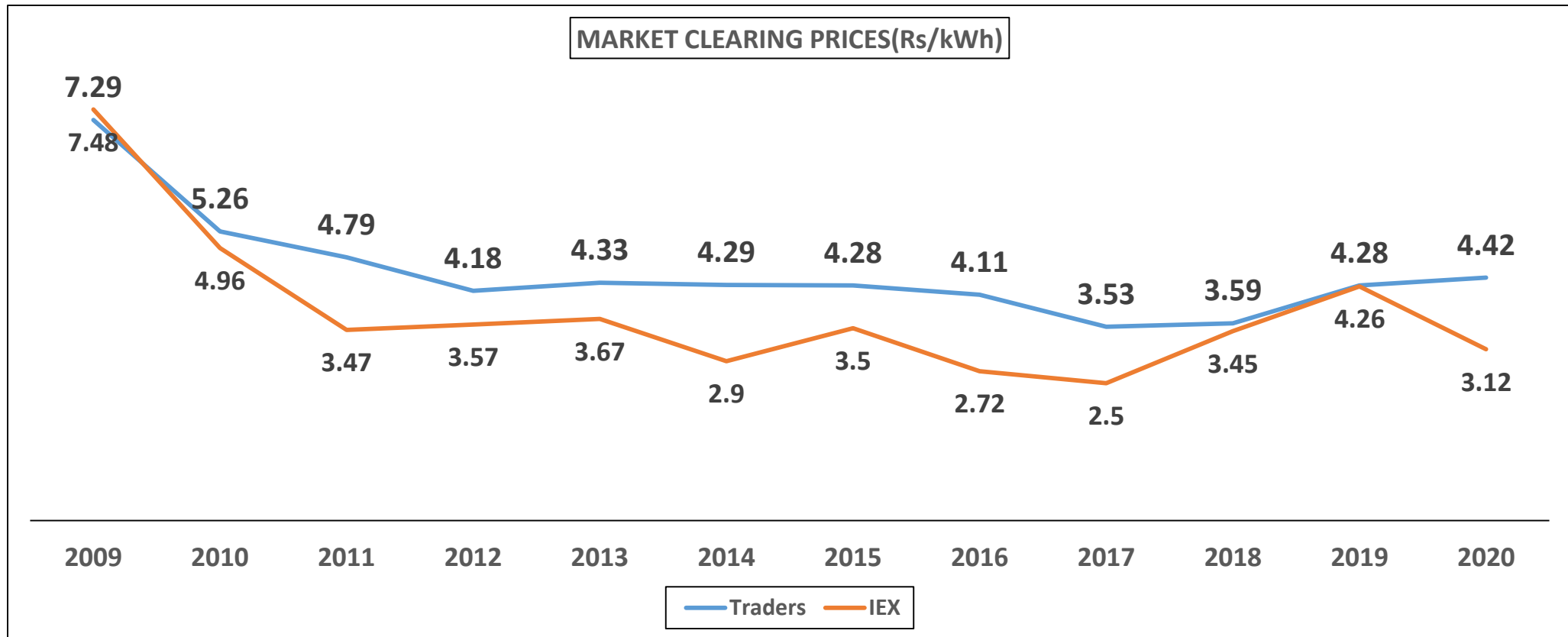
CONGESTION FREE ENVIRONMENT

Energy Deficit



- ❖ Energy deficit is the difference between electricity demand and the supply available.
- ❖ Currently, there is negligible deficit in the country i.e almost total electricity demand is fulfilled.
- ❖ Because of it now companies are not worried about the supply which was the case previously.

IEX- DELIVERING LOWEST MCP



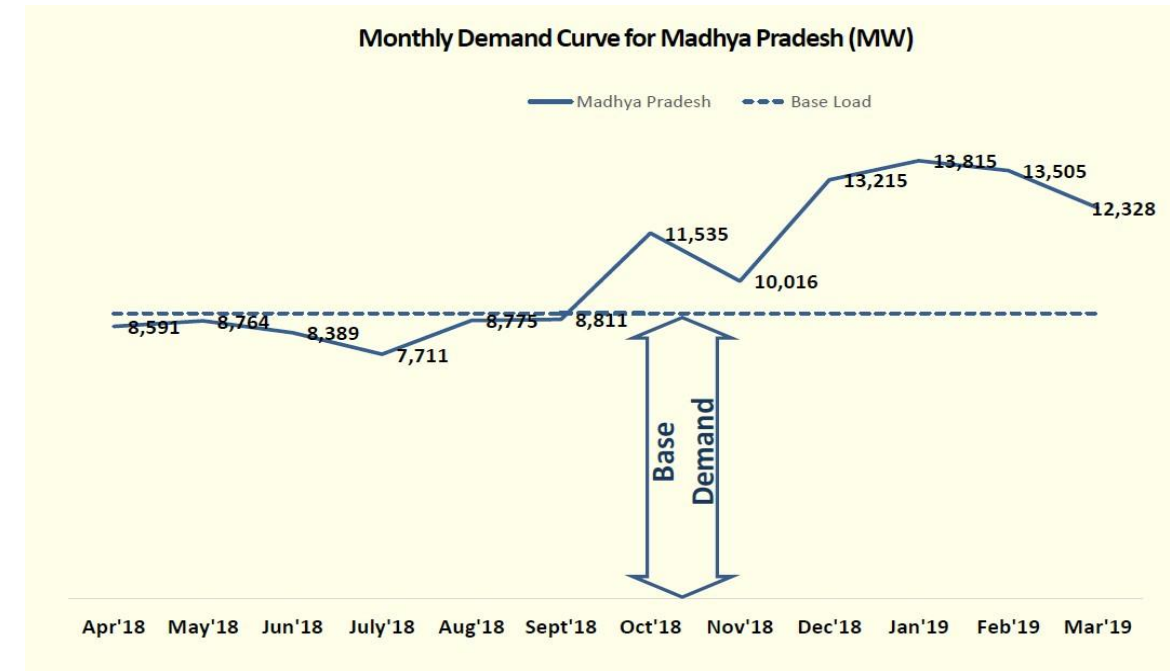
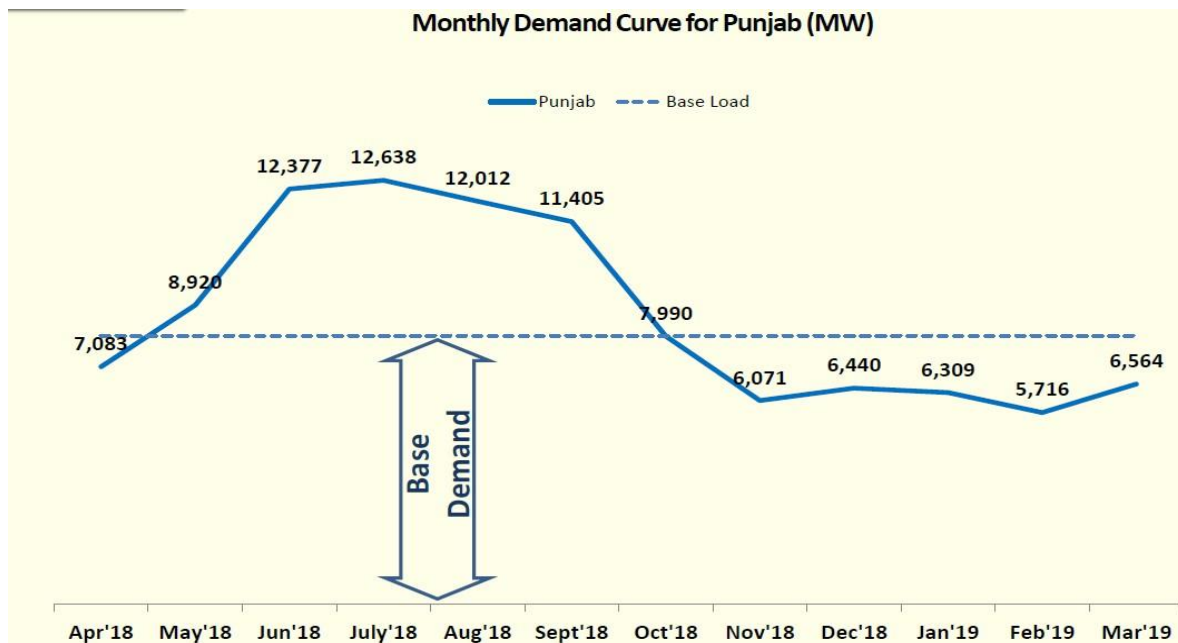
REASONS WHY STATE WOULD WANT TO TRADE IN SHORT TERM POWER

Akhilesh Bhandari: Thank you for the opportunity, just one question. There was recently an article that in the forthcoming meeting of Energy Ministers, the power minister is going to announce that all discoms must have PPAs to cover 100% of the requirement. So just wanted to get your comments on this statement?

S N Goel: All discoms should have 100% PPAs to cover their requirement, which is basically base load requirement. In case of distribution companies, there are a lot of seasonal variations also. Looking at the state of the Delhi, or Haryana, Punjab, Gujarat who signed large PPAs and beyond their base load requirement and now their paying capacity charges without utilizing that. I do not think distribution companies are going to sign PPAs beyond the base load requirement and seasonal variations are also quite large.

PEAK AND BASE DEMAND CONUNDRUM!!!

- ❖ According to new regulations DISCOMS should tie up PPA only to manage their base demand.
- ❖ Many Discoms has tied up even their peak demand with PPA, so they are required to pay for the electricity even if they don't utilize it.
- ❖ So, for optimum utilization Long Term PPA should be only for base demand and their peak demand requirement can be met through exchanges or traders.



NO NEW LONG TERM PPA SIGNED BY DISCOMS

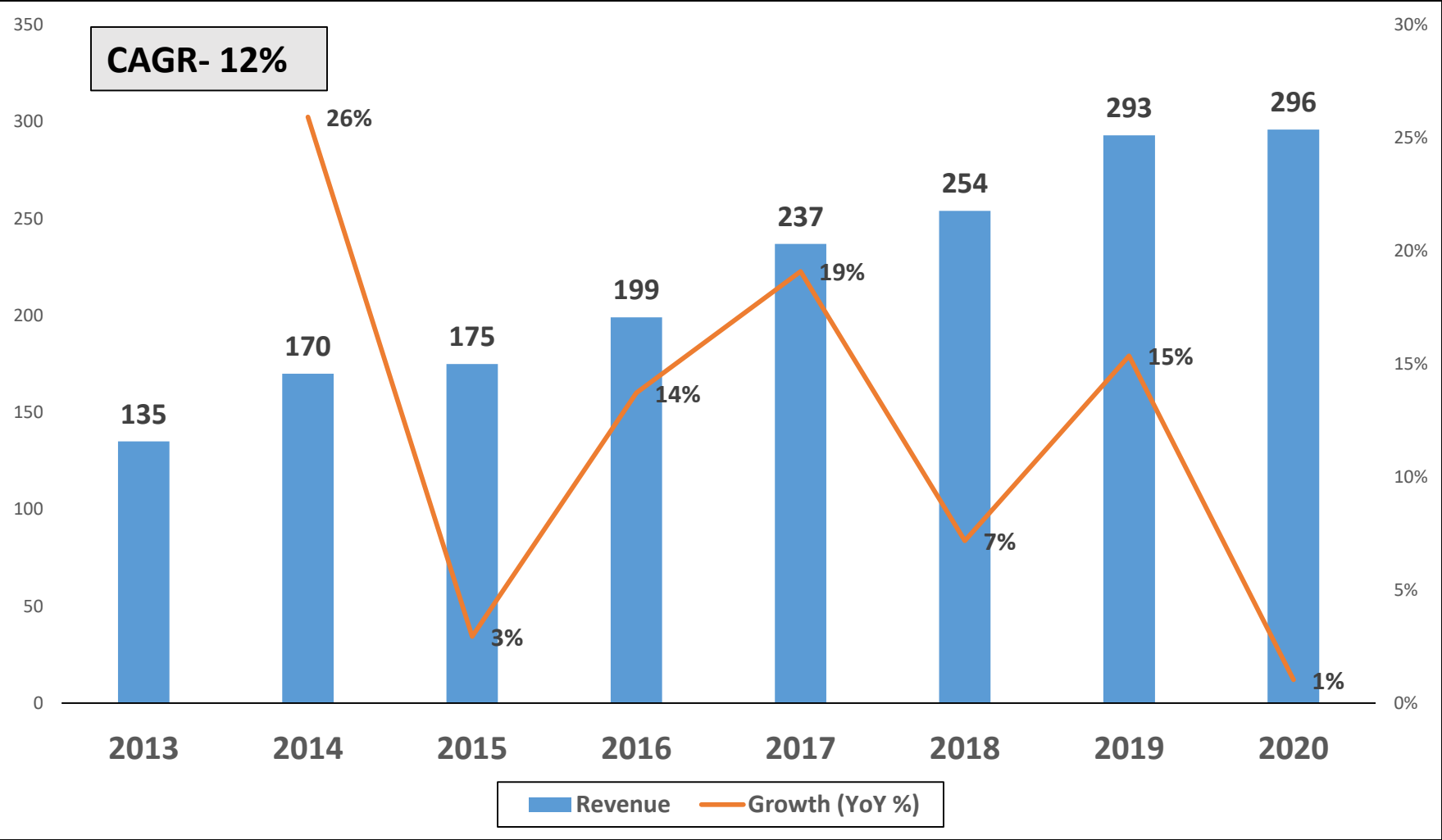
Rohan Advant:

Sir and my last question was that in RHP said that short-term as a percentage of total power production can increase from 10% currently to 22% over the next few years; however over the last six to seven years, we have seen that this has stayed constant at 10%. So can you just throw some light on what are the new drivers that can now really pull it up to more than 10%?

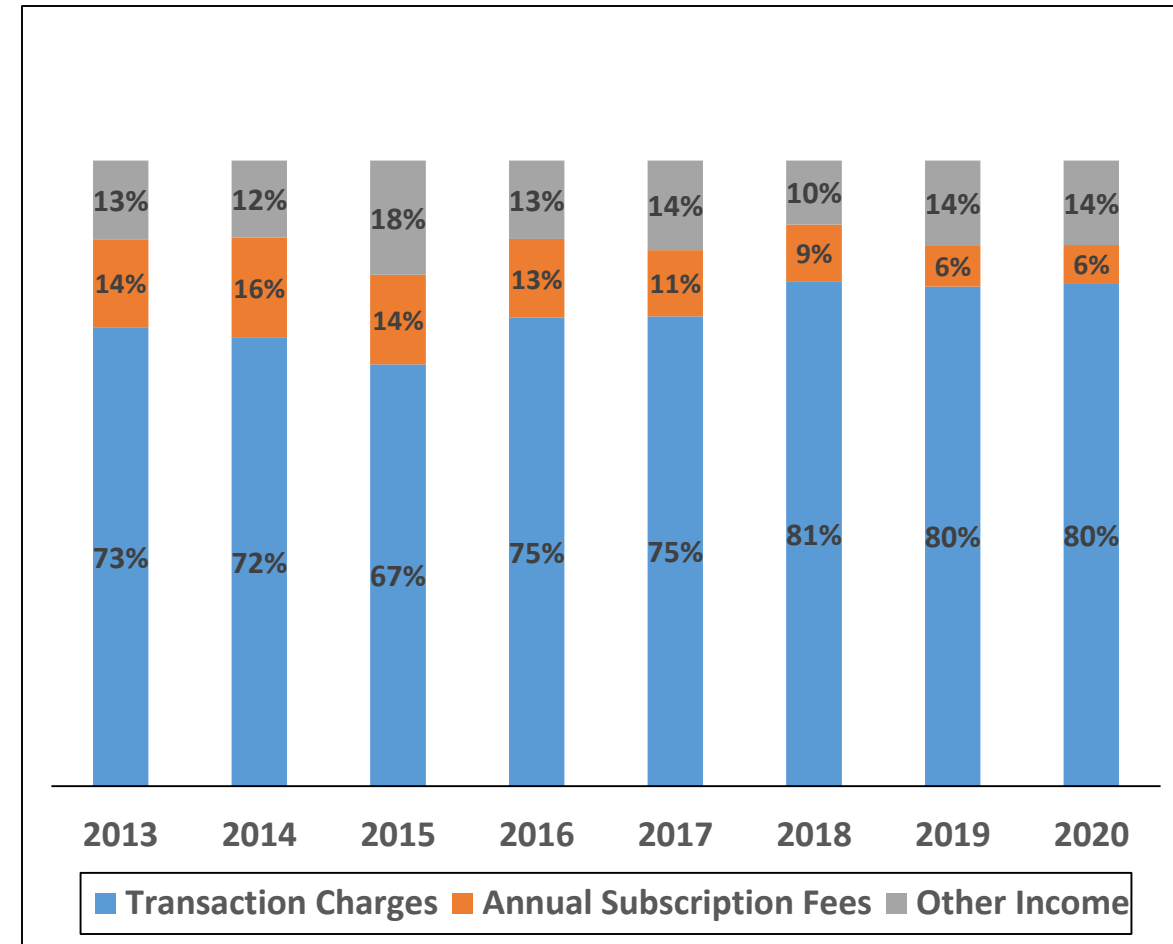
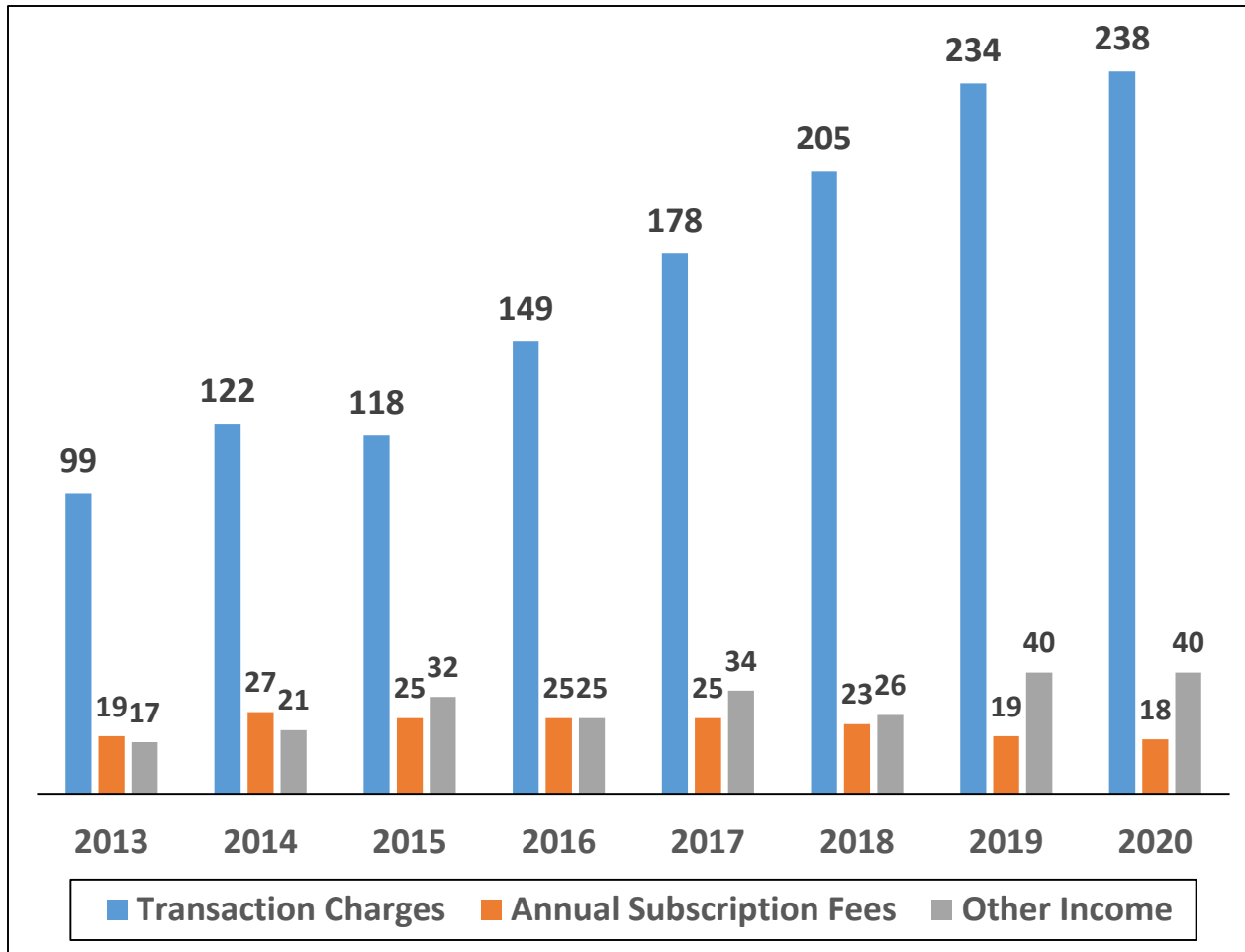
S N Goel:

See that RHP details for basically based on the report which was given by CRISIL to us and though in the last four, five years, the power market size has remained almost around 10%, but now with large generation capacity addition, which have taken place so we are surplus with power and more important is **augmentation in the transmission capacity**. So I am sure that will give a lot of comfort to the distribution companies that they can buy power whenever they wanted. So instead of getting into a contract through the bilateral transaction, they will now shift to the exchange market and that will also increase the short-term transaction. See earlier, they signed the long-term contract, if you see three, four years back, all distribution companies were signing long-term contracts but in the last four years virtually, no long-term contracts have been signed except for one or two contract by Kerala I think about 1500 megawatt to 1600 megawatt contracts have been signed. **So distribution companies are not signing long-term contract, which as they know under the long-term contract, they have to pay the capacity charge even if they are not utilizing the capacity and now they are comfortable that in the short-term market, there is enough liquidity**. So, I think in future the short-term market size will increase.

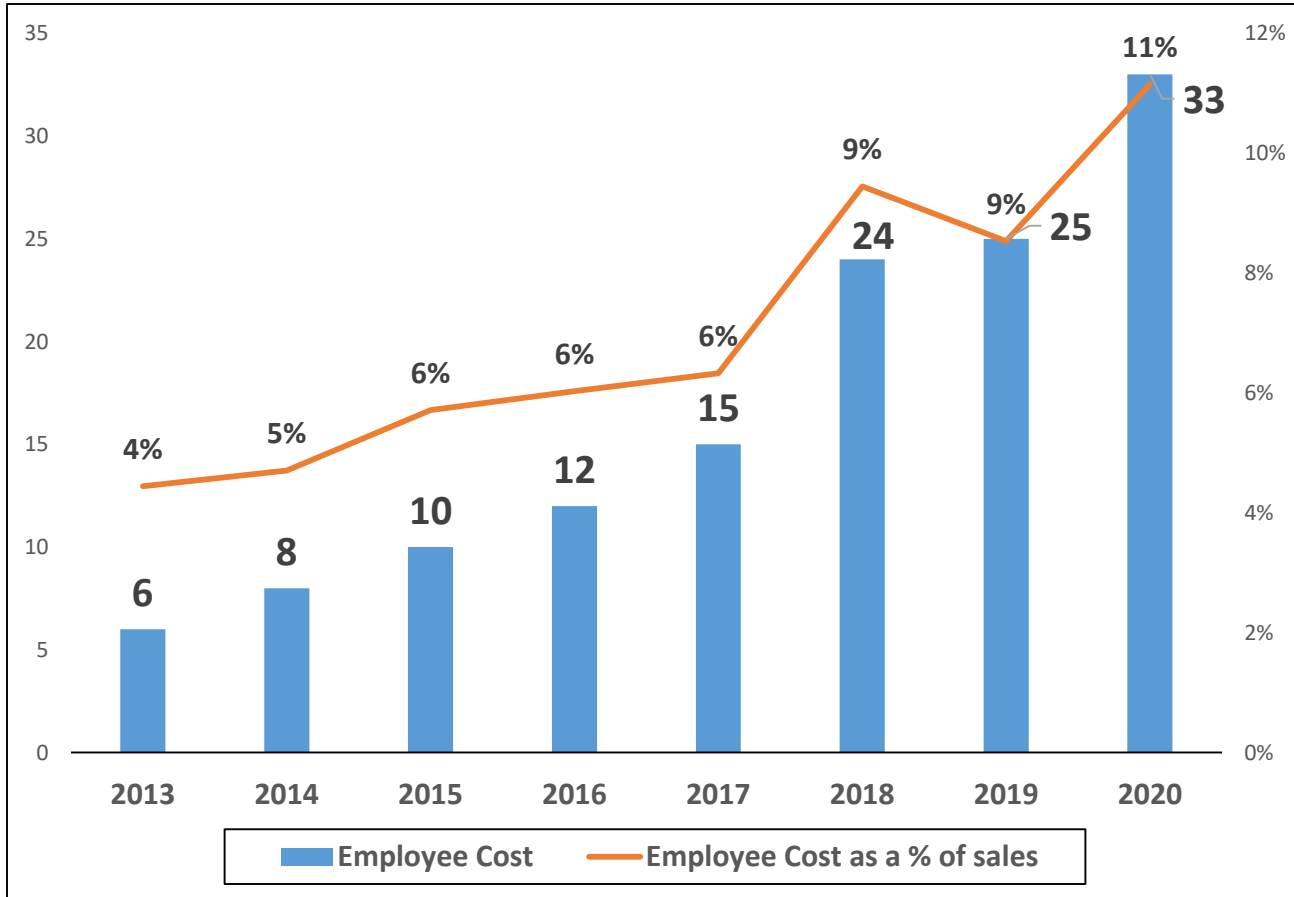
REVENUE FROM OPERATIONS



REVENUE STREAMS

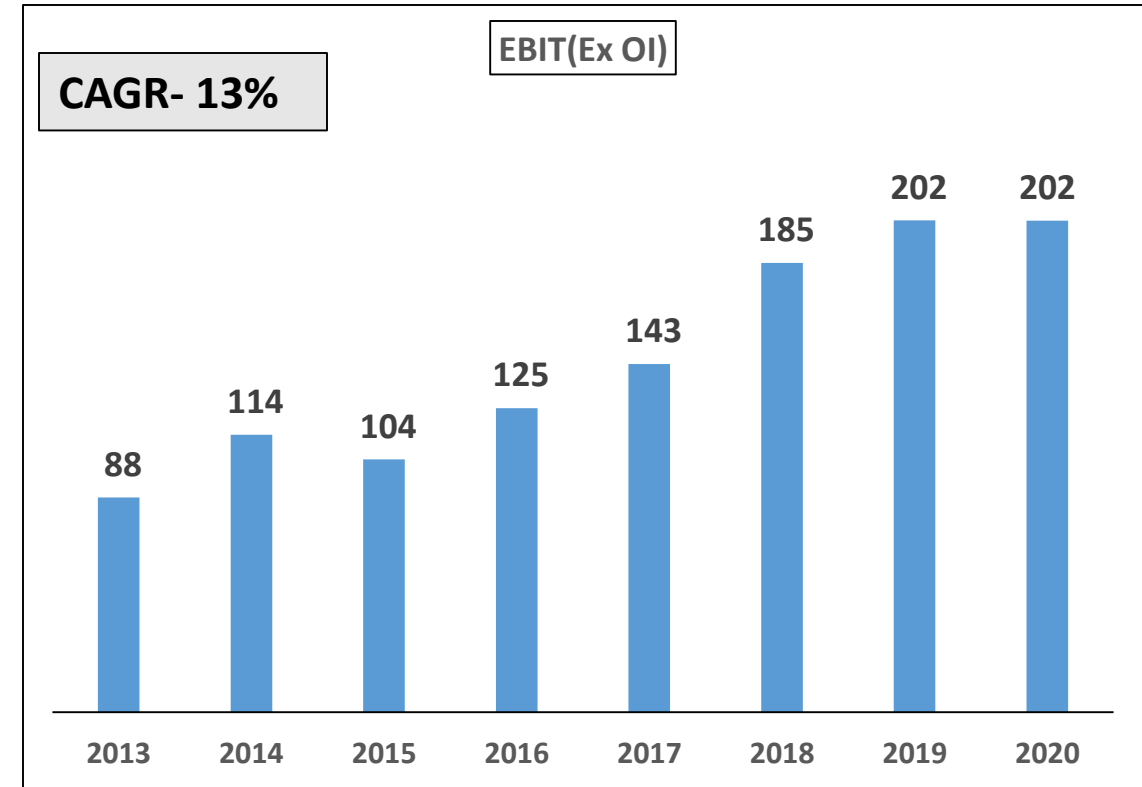
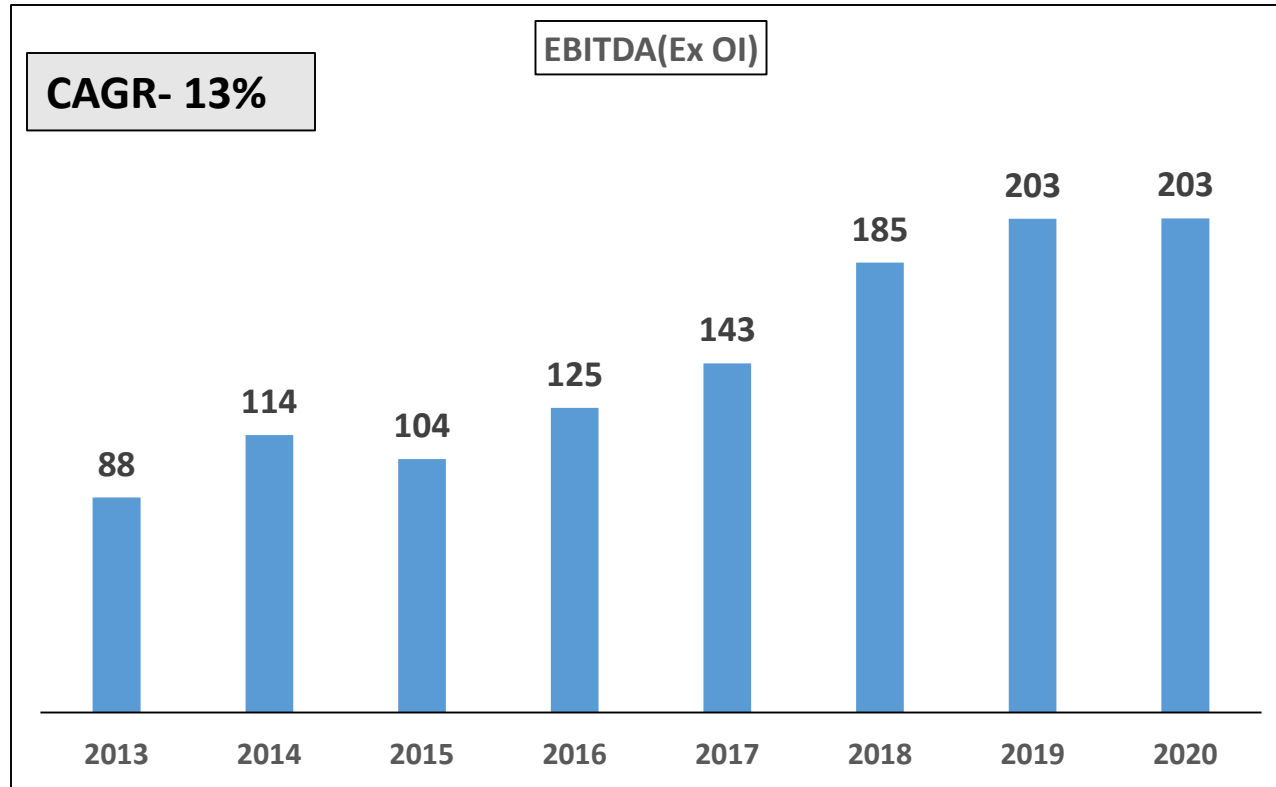


MAJOR COST

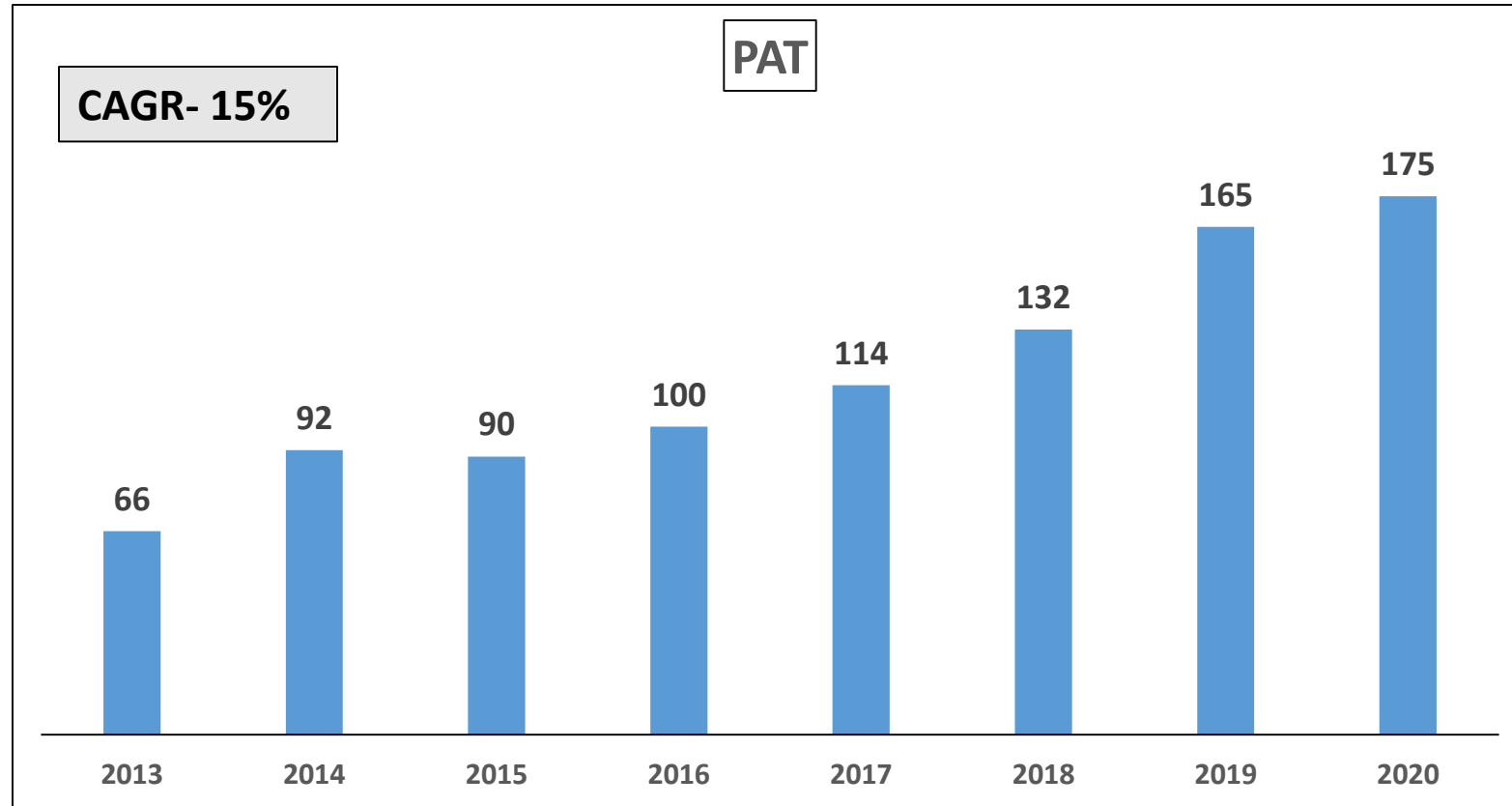


- ❖ In 2017, the company acquired the technological software for 130 crores from 63 moons.
- ❖ As the software was acquired 22-23 professional were absorbed.
- ❖ Because of hiring new employees the cost increased.
- ❖ Previously IEX used to pay around 10% of its revenue to 63 moons for the use of software.

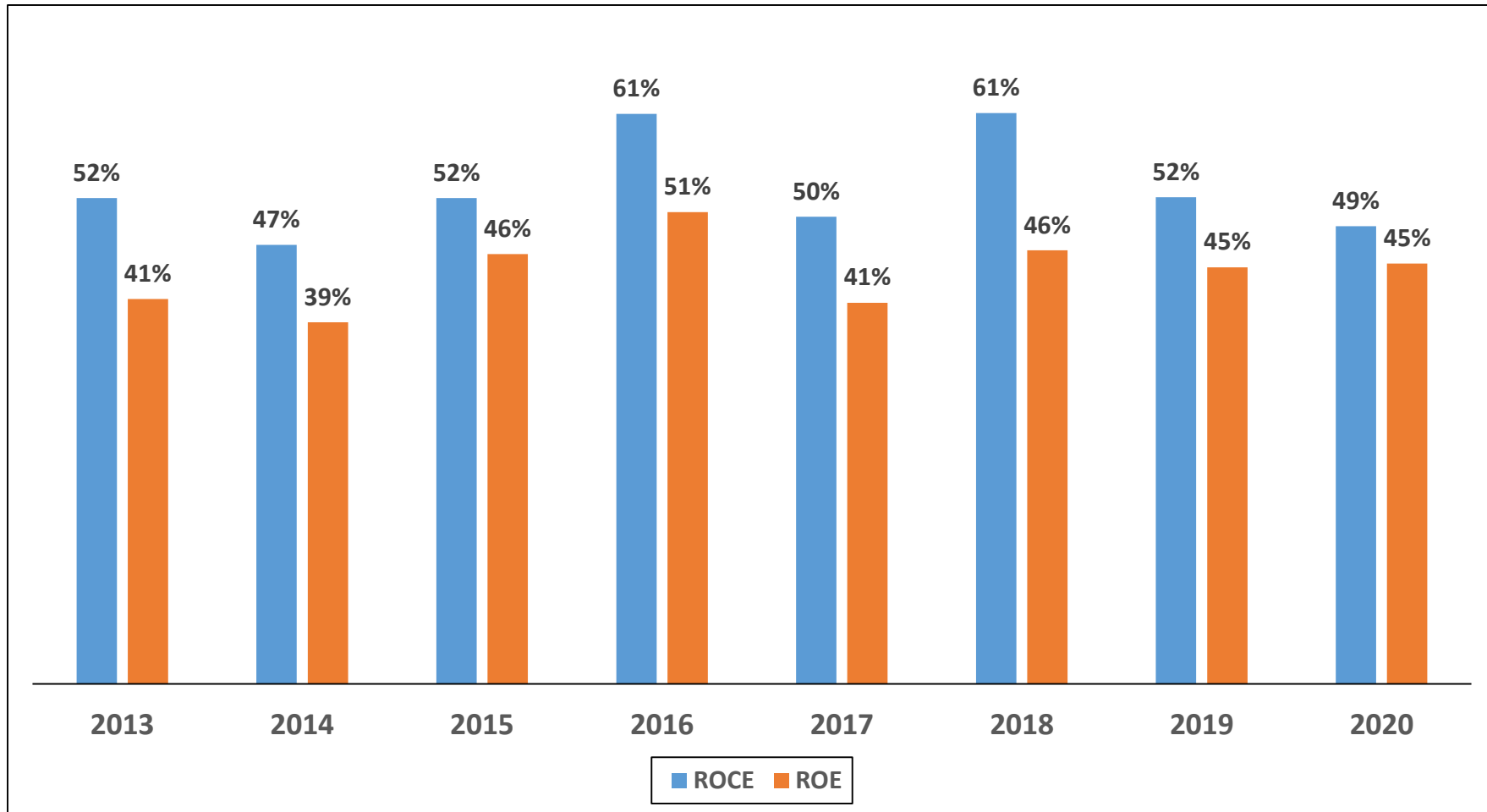
OPERATING PROFITABILITY



NET PROFITABILITY



RETURN RATIOS



STRONG BALANCE SHEET

**ZERO DEBT ON THE BOOKS SINCE
INCEPTION**

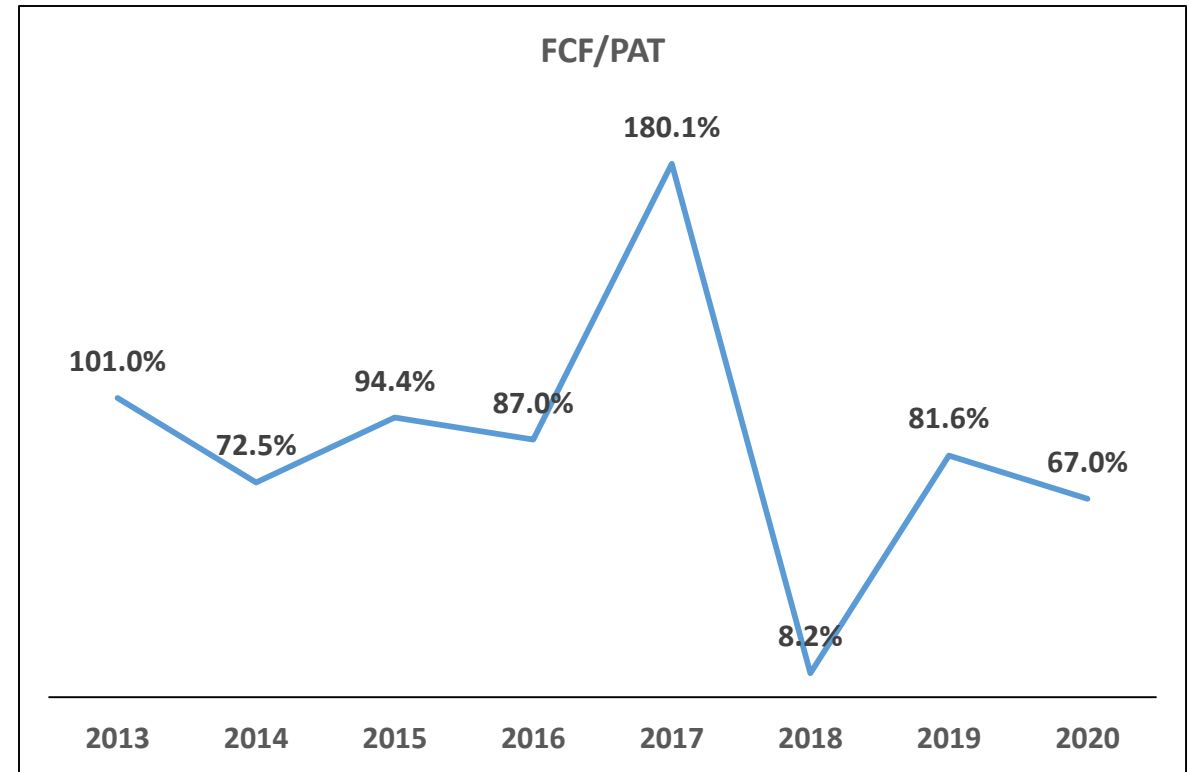
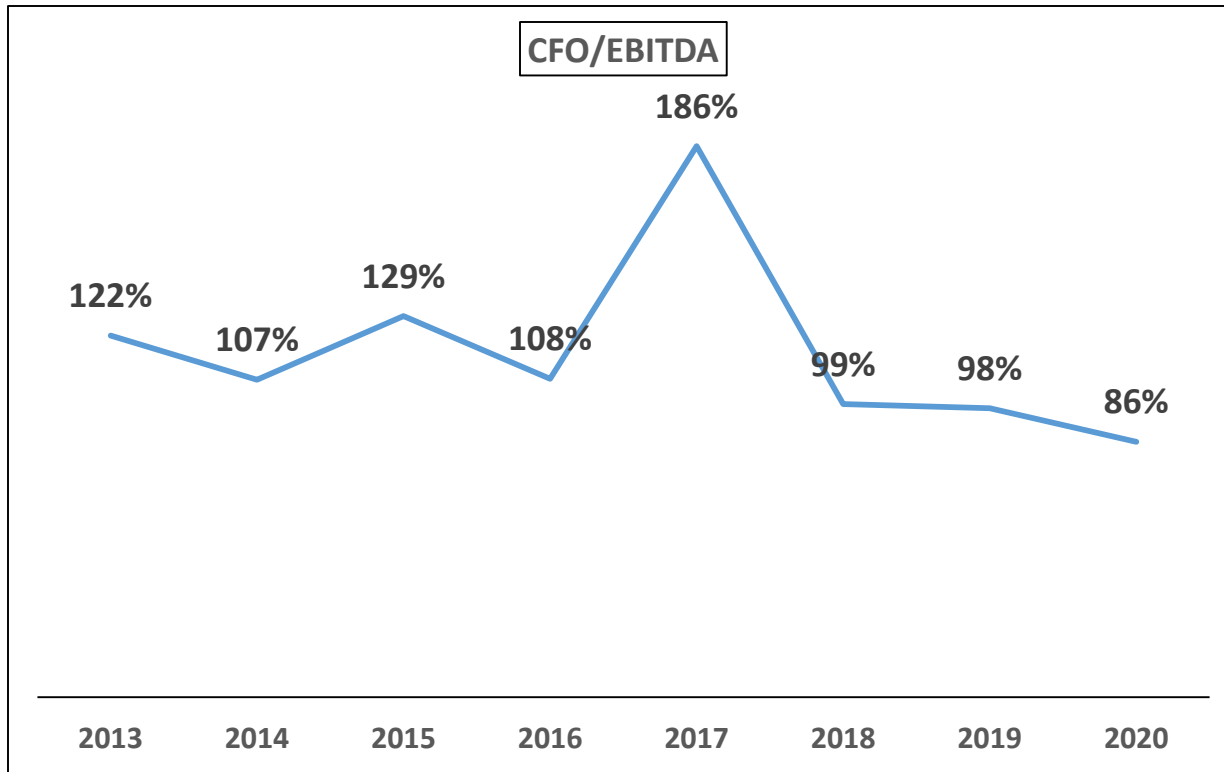
NEGATIVE WORKING CAPITAL

Particulars(In Rs Crores)	2013	2014	2015	2016	2017	2018	2019	2020
Net Working Capital	-34.3	-27.3	-34.2	-58.2	-171.7	-84.4	-87.9	-77

**NO CAPEX REQUIRE TO FUEL THE
GROWTH**

Particulars (In Rs Crores)	2013	2014	2015	2016	2017	2018	2019	2020
Net Block(Tangible+ Intangible)	12	10	14	11	8	119	111	123
% of Total Assets	4%	2%	3%	2%	1%	21%	16%	18%

STRONG CASH CONVERSION



LOOK THROUGH METRIX

Particulars/Years	2013	2014	2015	2016	2017	2018	2019	2020
EBITDA (Margin)	65%	67%	59%	63%	60%	73%	69%	69%
EBIT (Margin)	65%	67%	59%	63%	60%	73%	69%	68%
PAT (Margin)	49%	54%	51%	50%	48%	52%	56%	59%
FCFF	89	102	116	111	239	19	166	120
ROCE	52%	47%	52%	61%	50%	61%	52%	49%
ROE	41%	39%	46%	51%	41%	46%	45%	45%
EBITDA (Growth)	-	30%	-9%	20%	14%	29%	10%	0%
EBIT (Growth)	-	30%	-9%	20%	14%	29%	9%	0%
PAT (Growth)	-	39%	-2%	11%	14%	16%	25%	6%

REAL TIME MARKET

- ❖ Prior to RTM the power was purchased from DAM(Day Ahead Market).
- ❖ Now with the RTM in place this will help discoms and power Genco to transact power just an hour before delivery.
- ❖ With the RTM ordering a few million units will be as simple as buying a meal online and delivery will take just as long.
- ❖ The RTM will prevent collapse of electricity grids.

Last year, the Central Regulatory Electricity Commission (CERC), a key regulator for the Indian power sector, approved the launch of the RTM from 1 April. Under the RTM, if a discom places an order between 9:30 am and 10 am, the electricity is ready to be drawn by 11 am, making delivery almost instant.

NEAR TERM GROWTH DRIVER



- ❖ RTM was launched on June 1st 2020 after approval from CERC.
- ❖ RTM would mean trading of electricity one hour in advance.
- ❖ For e.g. if a discom place order just one hour before for its requirement it would be delivered to it.
- ❖ Before RTM the order should be placed one day in advance i.e if you want electricity tomorrow you have to place order today.
- ❖ After RTM all the volumes of DSM will be shifted to RTM i.e IEX.
- ❖ RTM volumes in June were 515 million units i.e it comprised of 10% of total volume in June.

Particulars	2020
DSM Volumes (BU)	22
DSM as a % of total market	1.70%

- ➔
- ❖ These DSM volumes will completely shift to IEX over the next two years so this represents a clear cut upside potential or growth in volumes.

TAILWINDS FOR IEX

- ❖ **No New Long Term PPA signed.**
- ❖ **Launch of RTM leading shift of volumes from DSM to IEX.**
- ❖ **Launch of IGX.**
- ❖ **Exchange continuously delivering lowest MCP.**
- ❖ **Inefficiency of Trade between Discoms.**
- ❖ **Coal Supply to plants which don't have PPA.(Previously Coal was supplied to plants which had PPA)**
- ❖ **Launch of new products like Long Duration Contracts, Derivatives and Cross Border Trades.**

INDIAN GAS EXCHANGE

- ❖ IGX is India's first online gas trading platform for physical delivery of natural gas.
- ❖ IGX started operations on June 15, 2020.
- ❖ IGX will help India transition towards a gas-based economy, thus providing a fillip to growth in the gas market.
- ❖ The government aspires to increase the share of natural gas in the country's energy basket from 6% to 15% by 2030 as well as undertake significant investments for expanding the gas pipeline infrastructure. IGX would be a beneficiary.
- ❖ IGX state of art technology is in partnership with GMEX, UK.
- ❖ India's spot gas market is 25-30% of overall market, which is dominated by traders; this is target market for potential gas.

INDIAN GAS EXCHANGE

- ❖ India's domestic gas production is fully tied up, and about 50% of gas imports are also tied up.
- ❖ The balance 50% or 35-40mmscmd is the short term or spot market, which is dominated by direct transactions. This is the target market for potential gas exchanges in India.
- ❖ IGX would charge around Rs. 5-7/MMTBU as transaction fee.
- ❖ This presents an overall opportunity of INR 5-6bn.
- ❖ Gas exchange volumes represent a long term opportunity.

Participants:

Sellers:

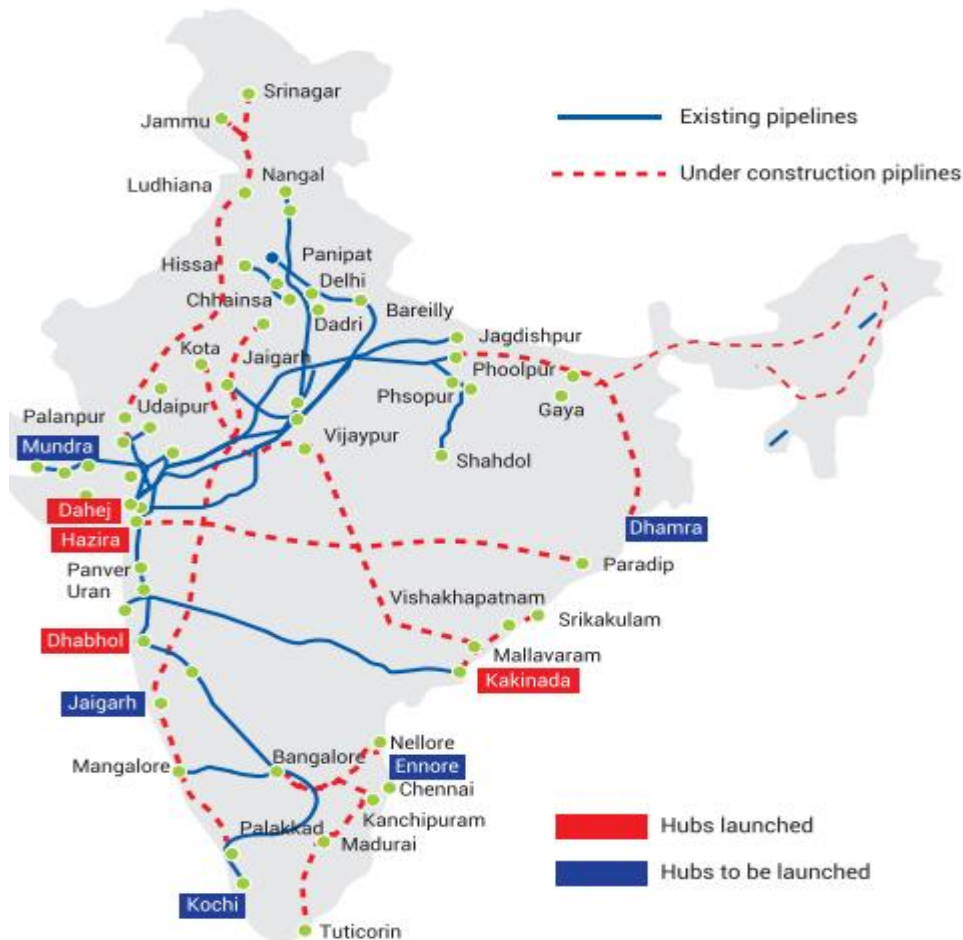
Companies like Petronet Lng, Shell,
and Gas mining companies like ONGC

Buyers:

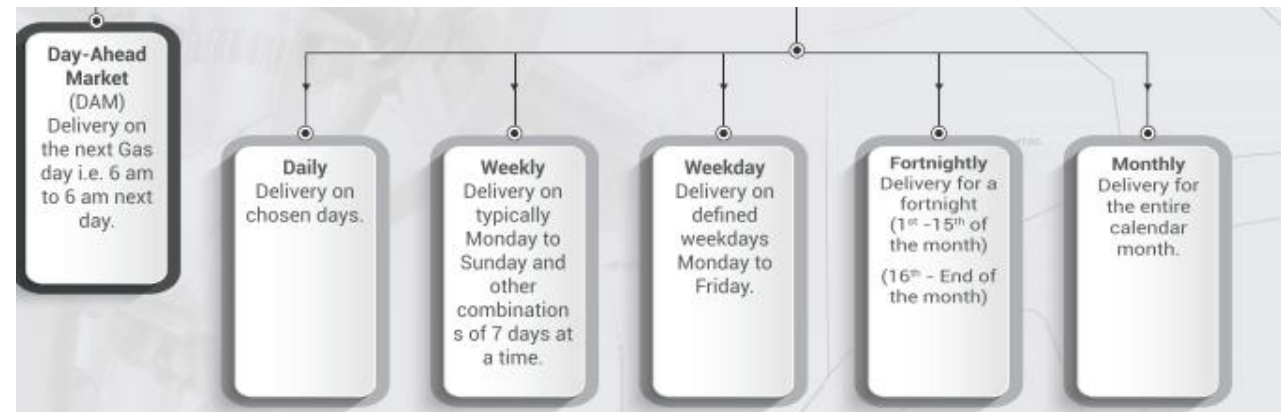
Industrials, Big commercials, City Gas
Distribution companies etc.

INDIAN GAS EXCHANGE- OPTIONALITY

❖ Currently, there are 4 physical hubs in India: Dahej, Hazira and Kakinada and IGX is present on three of them.



Contracts in market:



INDIAN GAS EXCHANGE

IEX is aligned to Governments' vision of creating a successful gas trading hub - a benchmark for Asian gas trades

January 2020

International Energy Agency slams govt over pricing policy of natural gas

The Modi government, after storming to power in 2014, had approved a formula to price domestically produced gas at the average rate prevailing in gas exporting countries such as the US, UK, Canada, and Russia.

PTI | Last Updated: January 13, 2020 | 10:32 IST

July 2019

India is likely to set up gas trading hub by first quarter of 2020-21

The Narendra Modi government is looking into a plan to unbundle the gas transmission and marketing business of GAIL.

Shine Jacob | New Delhi
Last Updated at July 22, 2019 22:33 IST

Dec 2018

Gas trading hub to be set up soon: Pradhan

Our Bureau | New Delhi | Updated on December 11, 2018 | Published on December 11, 2018



India will soon set up a gas trading hub and have the price for domestically produced gas determined through this market according to Minister for Petroleum and Natural Gas, Dharmendra Pradhan.

Dharmendra Pradhan Kamal Narang

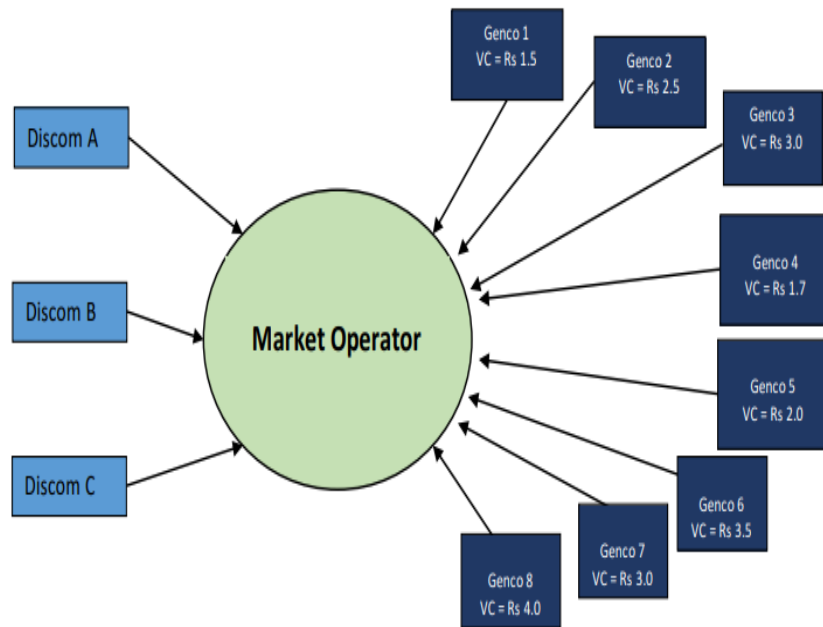
January 2020

Interministerial talks on gas sector reforms begin

The petroleum and natural gas ministry has begun interministerial consultations on its proposal to end the power sector's priority access to cheap domestic gas, setting up a gas trading platform and hiving off GAIL's pipeline business into a subsidiary.

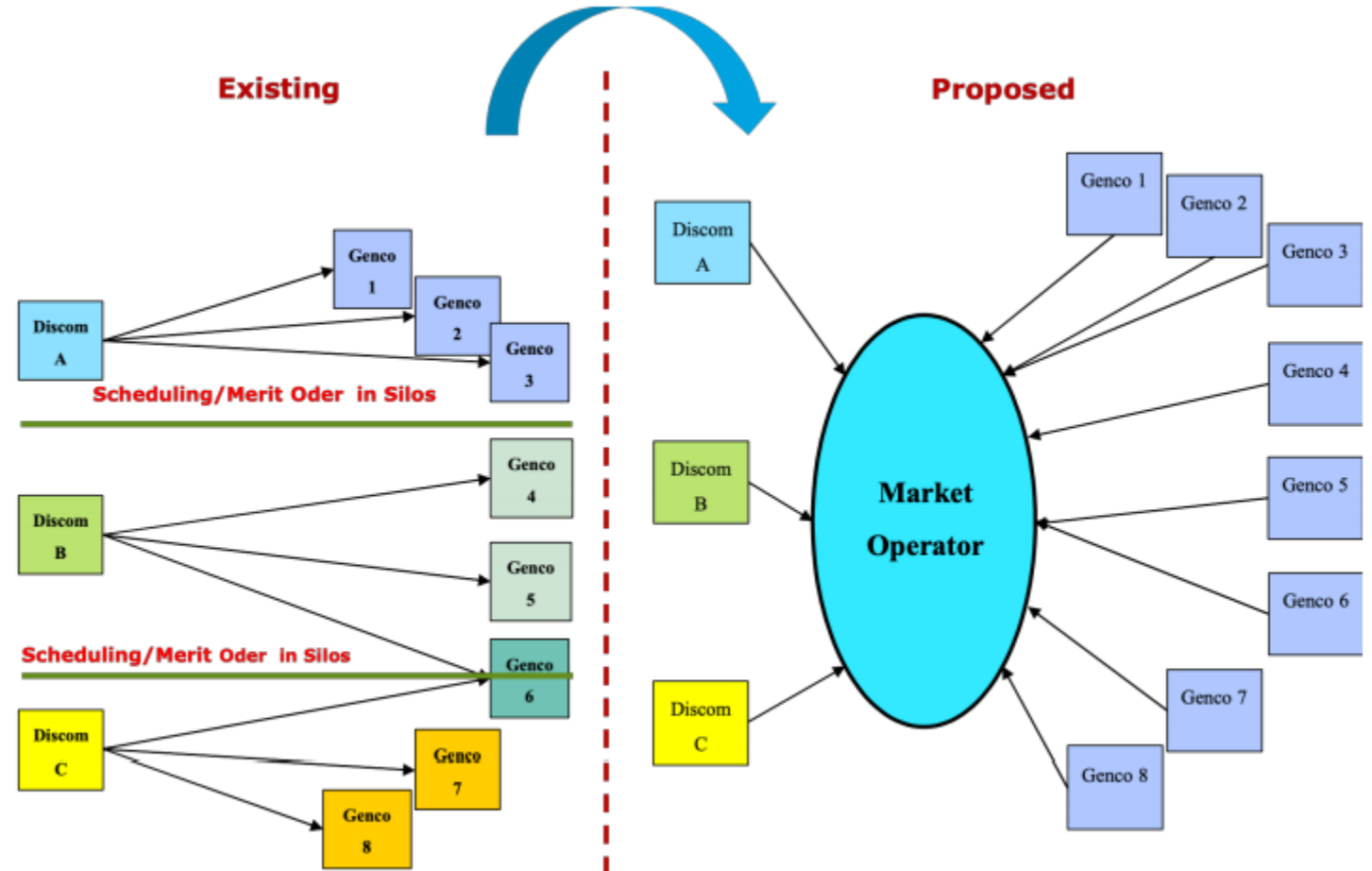
MARKET BASED ECONOMIC DISPATCH (MBED)

Market based economic dispatch



Source: CERC Staff analysis

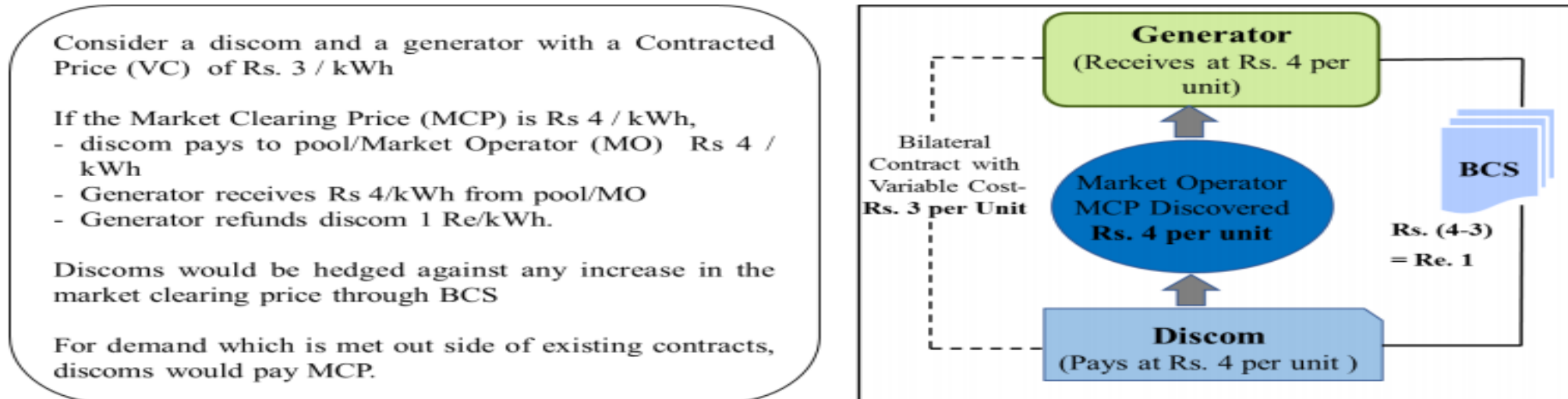
Box-1: Existing Framework Vs Proposed Market Based Economic Dispatch



MARKET BASED ECONOMIC DISPATCH (MBED)

- ❖ MBED proposes to shift the entire volume of power sold in the country onto the exchange platform.
- ❖ In simpler terms, it suggests trading of 100% electricity(even that under PPA) on the power exchanges.
- ❖ It will be a big step in development of power sector and will lead to enormous benefits in terms of cost saving in power procurement because electricity will now be procured from the cheapest source at all times.

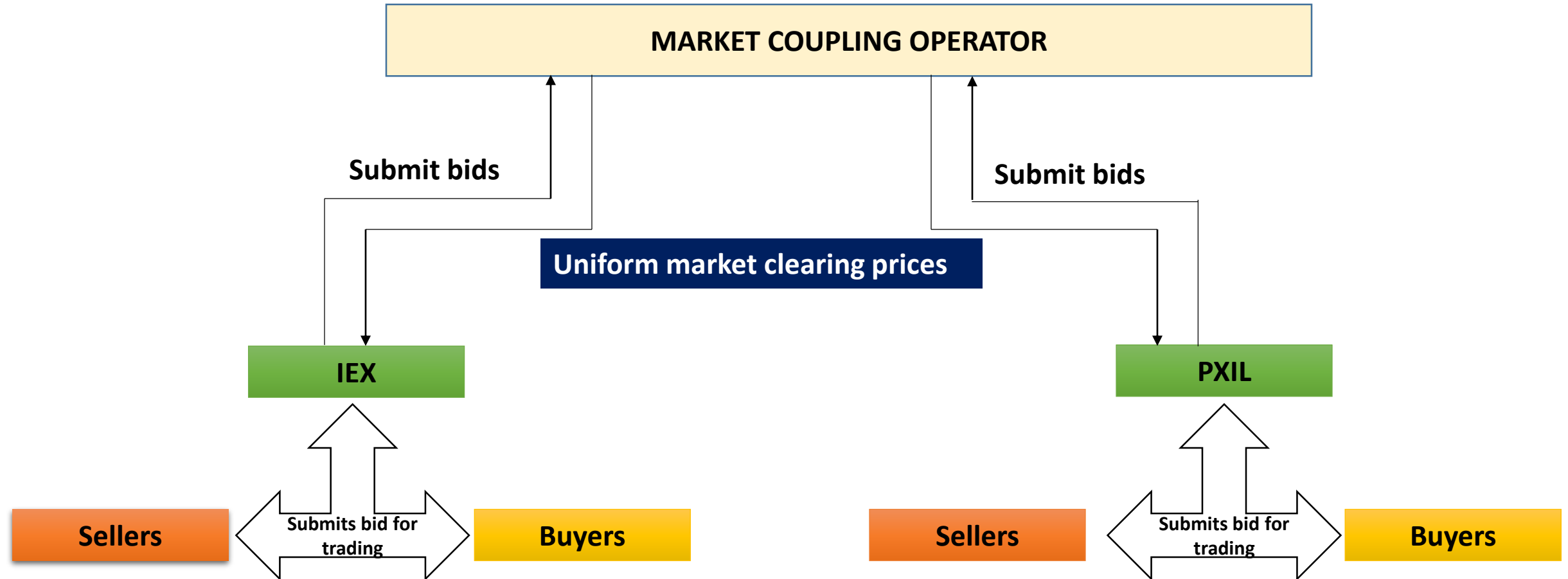
Figure 16. Arrangement for Bilateral Settlement - Simple Case



Source : CERC Staff Analysis

MARKET COUPLING

Mechanism for market coupling



WHAT ARE THE SCENARIOS?

IF ONLY MARKET COUPLING IS IMPLEMENTED?

- ❖ IEX competitive advantage is the monopoly it has on the power exchange.
- ❖ Now, if market coupling is implemented this competitive advantage will be gone because sellers and buyers are not required to be on the same platform the scenario could be buyer from IEX and seller from PXIL.
- ❖ The market coupling operator will work like NSE platform and IEX will work like a stockbroker like Motilal.

UNFAVOURABLE

IF BOTH MARKET COUPLING & MBED IS IMPLEMENTED?

- ❖ With MBED being implemented we cant imagine the volumes on IEX.
- ❖ The current 4% market share of power exchange might easily increase by 9-10 time to 30-40%.
- ❖ IEX would be beneficiary definitely.
- ❖ MBED Draft was issued in Dec-2018 and market coupling was issued on Jul-2020.
- ❖ Somewhere this could mean CERC is planning to bring both regulations together **(Just a guess)**

KEY RISKS

Short Term Market stuck in a range of 11%

Regulatory Risk

What if bilateral volumes don't shift to IEX

Risk on the treasury income

Implementation of Market Coupling

Might have to reduce stake in IGX to 26% (they are in dialogue with regulatory to at least hold 51%)

GOVERNMENT SCHEMES THAT COULD ACT AS A CATALYST

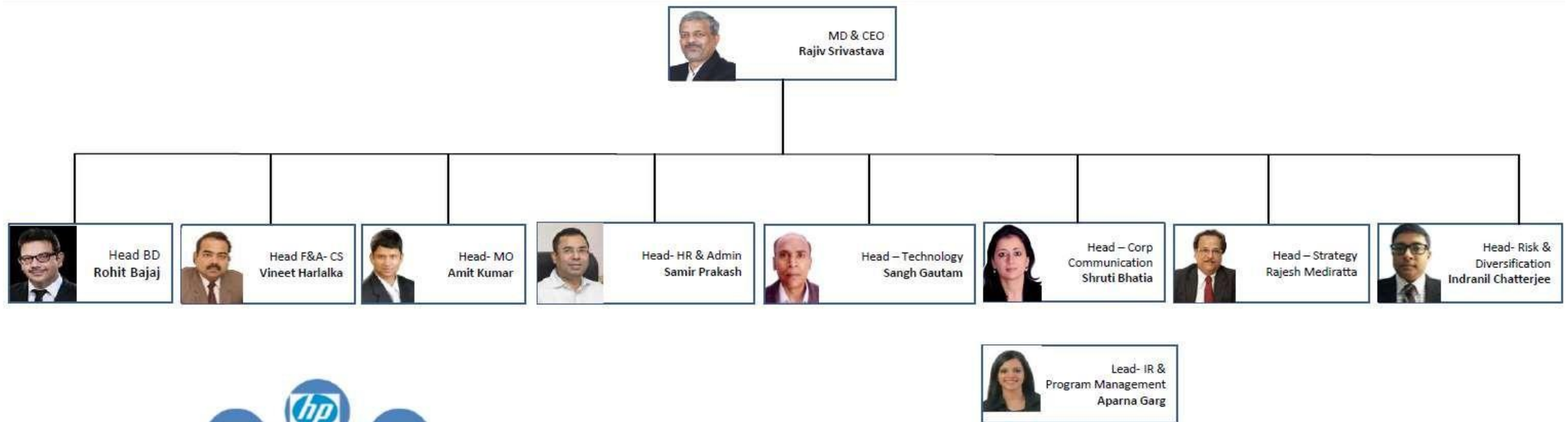
24*7 Power Supply

Saubhagya Scheme

Rural Electrification

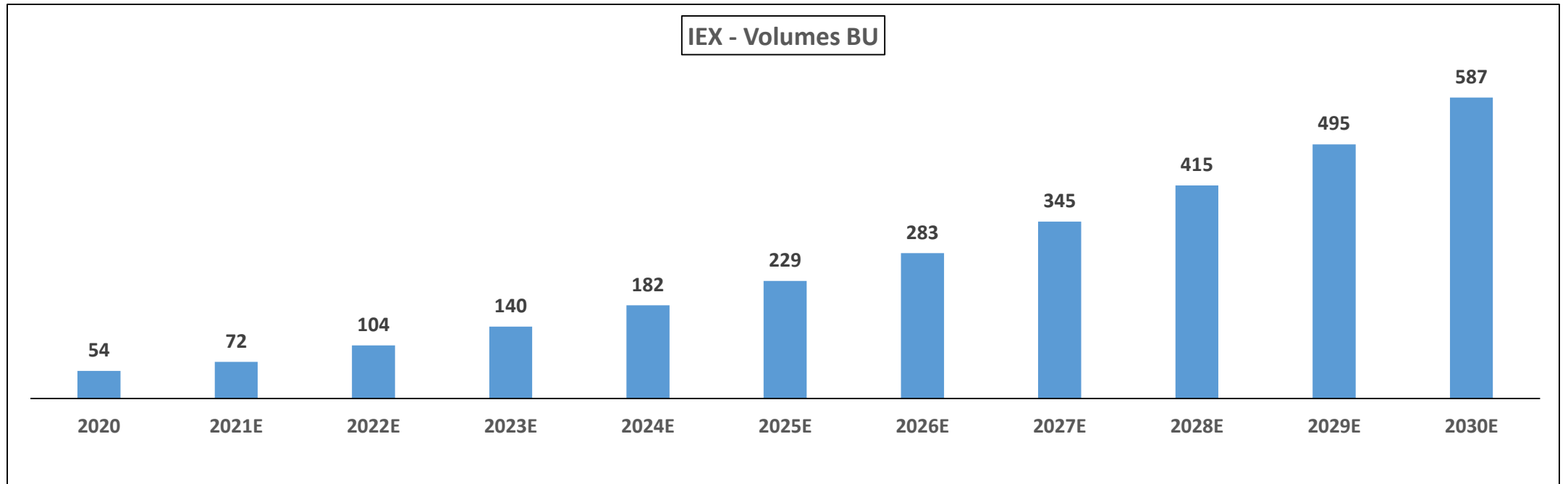
UDAY- Helping Discoms

STRONG MANAGEMENT TEAM



- More than ~200 years & ~50 Companies experience
 - Average experience ~23 years
 - Balance of Power, IT & Other Industry experience
 - From best of the companies
- A complimentary mix

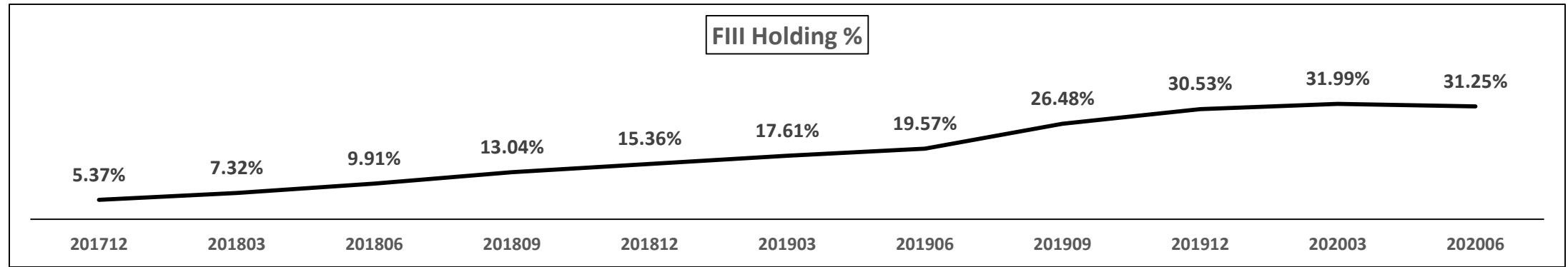
IEX- VOLUME GROWTH FORECAST



Triggers for Growth:

1. The whole DSM volume shifting to IEX through RTM i.e 22 BU every year from 2022
2. IEX volumes has grown at a CAGR of 14% over last 5 years so I have taken same growth going forward.
3. For e.g. volumes in 2022:- $(72 * 1.14) + 22 = 104$

SHAREHOLDING



Company (Fund Houses)	% Holding
Dalmia Power	10.02%
TVS Shriram Growth Fund	10.02%
WF Asian Reconn Fund	5%
Small Cap world Fund	4.70%
RIMCO (Mauritius)	4.55%
Rural Electric Corporation	4.10%
Fidelity Investment Trust	2.10%
MIT	2%

IEX - EVERYTHING IS EXCELLENT!!

MONOPOLY > 95% Share

EBITDA MARGINS > 60%

ASSET LIGHT MODEL

**CONSISTENT FCF
GENERATION**

DIVIDEND PAYING

ZERO DEBT COMPANY

ROCE AND ROE > 50%

**HUGE HEADROOM FOR
GROWTH**



MJK Finvestment

Simplicity Trumps Complexity

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