



Dated: September 14, 2022

The Manager  
BSE Limited  
Corporate Relationship Department  
Phiroze Jeejeebhoy Towers  
Dalal Street  
Mumbai- 400001  
**Scrip Code: 540750**

The Manager  
National Stock Exchange of India Ltd  
Listing Department  
Exchange Plaza, 5<sup>th</sup> Floor, Plot No. C/1  
G Block, Bandra Kurla Complex  
Bandra (E), Mumbai-400 051  
**Symbol: IEX**

**Sub: Transcript of Analyst Meet 2022 held on September 07, 2022**

Dear Sir / Madam,

Pursuant to Regulation 30 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, please find enclosed herewith the transcript of the conference call held with Analysts / Investors.

The above information will also be made available on the website of the Company:  
[www.iexindia.com](http://www.iexindia.com)

You are requested to take the above information on record.

Thanking You.

Yours faithfully,

For Indian Energy Exchange Limited

Vineet Harlalka  
CFO, Company Secretary & Compliance Officer  
Membership No. ACS-16264

Encl: as above

---

**Indian Energy Exchange Ltd**

**Registered Office:** C/o Avanta Business Centre, First Floor, Unit No. 1.14(a), D2, Southern Park, District Centre, Saket, New Delhi-110017, India

**Corporate Office:** 9th Floor, Max Towers, Sector 16B, Noida, Uttar Pradesh-201301, India

**Tel: +91-011-3044 6511 | Tel: +91-120-4648 100 | Fax No.: +91-120-4648 115**

**CIN: L74999DL2007PLC277039 | Website: [www.iexindia.com](http://www.iexindia.com)**

## ANALYST MEET 2022

**Aparna Garg:** Good evening, everyone and welcome to the analyst meet of Indian Energy Exchange. I Aparna Garg would be anchoring the event today. With us from Management side we have Mr S N Goel Chairman and MD of IEX, Mr Vineet Harlalka -CFO, Mr Rohit Bajaj - Head Business Development, Mr Amit Kumar - Head Market Operations and New Product Initiatives, Mr Sangh Gautam – CTO, Mr Samir Prakash - CHRO and Mr Rajesh Mediratta - MD and CEO of IGX.

We will begin with the opening remarks from Mr Goel. I now invite Mr Goel for the opening remarks, followed by a presentation by Mr Rohit and other Management from IEX.

**Satyanarayan Goel:** Good evening, everyone. Welcome and thank you for joining us today. After two years of virtual meetings, it feels good to meet you all in person. Today, I along with the Management Team of IEX, will brief you about the different aspects of our business, strategy, outlook, as well as address all your questions.

The Indian economy is gaining traction, despite the global headwinds. As per the 2022 rank analysis of International Economic Resilience of top 10 countries, India is the best performing among major economies in the world. The pace of economic activity continues to remain strong due to the structural reforms undertaken by the Government of India in the last two years. India is also expected to become one of the top three global economies in the next decade. For the fiscal year 2023, the country is expected to achieve a robust GDP growth of 7.4% as per IMF.

The revival of economic activities has led to a significant increase in electricity consumption during FY 22, which was 1,374 BU, an 8.1% growth on YoY basis. During the 1st quarter of this year, the Indian power sector witnessed a peak demand of 212 GW and a very high consumption growth of 18% YoY. The increasing focus by the Government of India on electrification, from cooking to railway traction, and electric vehicles, will contribute significantly to an increase in power consumption in the country. Currently, India's per-capita electricity consumption is only about one-third of the global average. This presents a huge opportunity for the electricity sector, which is expected to grow at a rate of more than 6% p.a for the next few years.

As we know, India aims to become a carbon neutral economy by 2070 and achieve 50% clean energy share by 2030. This commitment has paved the way for a massive transformation in the energy sector. Our honourable Prime Minister, in his address to the Nation on the eve of

the Independence Day, announced the launch of National Hydrogen Mission to accelerate plans to generate carbon-free fuel from renewables with an aim to achieve self-reliance in energy by 2047. The country is also witnessing faster adoption of electric mobility which will help increase demand for electricity, while addressing the pressing challenge of air pollution. Electric storage is expected to make inroads as well. The increase in the proportion of renewables in the overall energy mix will change the way energy is traded.

Renewable capacity is going to be distributed all over the country and could range from kW to GW.

An individual who is maybe a seller sometimes, when he has the solar power on the rooftop, can maybe a buyer in the evening hours, and for doing transactions with these entities who are scattered throughout the country, it is only possible through a market-based approach.

In India as well, government has taken cognizance of this crucial role played by the energy markets and keeping that in view, Government of India in the draft national electricity policy has made a projection of increasing the spot market to 25% of generation in the next 3-4 years.

The green market will also encourage RE rich states to increase the capacity beyond RPO obligations, because now these states will be able to sell the surplus power in the market.

We also note that many of the IPP 's now are considering to set up their green generation capacities partly through PPAs and partly through the market based approach. In fact, some of them are even considering to set up 100% capacity through the market based approach.

Market will serve as a catalyst for accelerating renewable generation capacity addition in the country. We have seen that developed countries with well-developed power markets such as European Union, UK, US have adopted market-based models including contract for difference, and are very successful in doing capacity addition through this model.

In such economies, power exchanges have played a crucial role in reducing cost of RE integration.

Recently in UK they did 4th round of e-auction for renewable capacity addition through the market-based model and almost about 11,000 MW capacity is now being added through the market-based model in UK under the 4th round taking the total capacity addition to 30 GW through the market-based model. This shows that market-based routes for large RE capacity addition has been successful and well accepted by the developers. Similar models have been adopted by Germany and many other countries across Europe.

Recently IEX, along with SECI, had appointed Deloitte to do a study to explore possibility of market-based renewable capacity addition options in India and from the study we note that a developer will be able to generate higher IRR by setting up capacity through the market-based model, compared to the PPA route.

Deloitte did the study based on the marginal cost of power and did the price projections for the next 15 years. They found that IRR for market-based models will be around 20%. I'm sure this kind of study will encourage IPPs to adopt market-based capacity addition route.

Indian government and regulatory bodies have been proactively interacting with the key stakeholders of the industry to formulate policies that are favourable for the sector and will help deepen the power market within the country. Some of the recent developments include:

Introduction of Long duration contracts, which was approved after almost about 11 years of jurisdiction issue. They were approved in the month of June. We have already launched the long duration contracts upto 90 days. Ancillary service regulations, these will be done through the market-based approach; National Open Access Registry; Connectivity and General Network Regulations. Discussion on GNA was started sometime in 2013 I believe and now in 2022 regulations have been issued and it is expected to be implemented shortly.

Draft sharing regulations and draft grid code have been issued. This also will be finalized shortly. One thing good about all these initiatives is that these are more market friendly and my colleague Mr Rohit Bajaj will be discussing about this in detail in his presentation.

The cumulative effect of these regulatory initiatives is certain to benefit our country, energy markets, and will go a long way in creation of a transparent, efficient, and secure power market in the country.

As an energy market Pioneer IEX, continues to make significant contributions toward helping India build a sustainable, energy efficient economy.

We remain committed to our customers in procuring uninterrupted 24/7 power in the most competitive, flexible, transparent, and efficient manner. With the customer centricity at the heart of our operations, we are continuously working towards enriching the experience of our customers across all touchpoints, including registration, bidding, physical delivery, and financial settlement.

We have introduced value added services for renewable power producers to garner forecasting services and solutions from the top

empanelled service providers. We have empanelled couple of service providers which are international service providers.

As a technology led energy marketplace, we are continuously working towards leveraging technology innovations, and automations to provide intuitive, seamless, and best in class solutions to the market participants. With a comprehensive product portfolio to meet the diverse needs of our customers, provision of data Insights, Member API across products, state of the art technology, automation and web portal, will help us in creating true customer delight.

Our technology offerings and customer experience initiatives will be discussed in detail in the upcoming presentations by Mr Amit and Mr Sangh.

IEX continues to constantly innovate and introduce new products to meet the evolving needs of the market. Last year we introduced Green Day ahead market in October 2022 and this market has also seen significant participation from our participants. In 2022, we also started the cross-border trade. With that we have created a South-Asia regional market. In this region Nepal and Bhutan have already started transactions and Bangladesh is expected to join shortly.

I'm sure with this, these countries will be able to utilize the energy resources in most optimal manner.

It gives me immense pleasure to share that our Indian Gas Exchange has achieved financial break even in the first full year of its operation and continues to grow every quarter.

In line with the ambition of Government of India to increase consumption of gas from 6% to 15% by 2030 in the overall energy basket of the country, Government and PNGRB are taking many initiatives to deepen the gas market in the country because they believe that this kind of increase in the gas consumption can be achieved only through a liquid gas market, and they have now initiated the process of rationalization of transportation tariff. The government has proposed to set up a transport system operator which will manage the entire gas infrastructure and they intend to bring gas under GST. I am sure these initiatives will further deepen the gas market in the country. We are closely working with the government at various levels to help India become a market led gas-based economy. My colleague Mr Rajesh Mediratta will talk about gas exchange in detail.

Our honourable Prime Minister has set an ambitious target to make India a developed country by 2047. This aspiration coupled with greater

penetration of electricity and focus on renewable provides an enormous opportunity to the exchange markets.

As the electricity consumption is expected to grow at a rate of more than 6% in this decade coupled with reluctance of discoms in getting into long term PPAs, we expect power market to deepen further and as the Indian power market matures, we will evolve with it to meet the changing requirement of the customers.

I am delighted to share with you that we are now working on new products such as ancillary market, gross bidding, capacity market etc. Similarly, there is a huge opportunity in the gas market.

The massive transformation in the global and Indian energy sector has created several opportunities for IEX and we are exploring new marketplaces. With the enactment of Energy Conservation Act 2022, which talks about the carbon market in the country, Government of India is considering to create a mandatory carbon obligation which will provide the opportunity for us to set up a carbon exchange in the country.

We have also appointed a consultant to suggest us about the different opportunities which are available in the carbon space.

Further Ministry of Coal is also considering to bring market framework in the coal sector. In fact, they have appointed consultant to suggest framework for setting up a coal exchange in the country and we are actively interacting with the Ministry of Coal and we are looking forward to their regulatory and policy support for setting up first coal exchange in the country.

With the launch of new products, investment in technology and innovation, customer centric activities we expect to achieve a growth rate what we have done in the last 5 years, which is about 20% and I'm sure in the future also we should be able to achieve this.

I would like to conclude by saying that while we have come a long way since we started in 2008, there is still a lot more to be achieved. With this, I would like to conclude and thank you all for your patience. Thank you again.

**Rohit Bajaj:**

Good evening, everyone. Thank you Goel Sir for very detailed overview of the company.

Moving forward, I'll be walking you through the business update as well as policy and regulatory and also new initiatives that IEX is undertaking.

Another 30 to 35 minutes I am going to cover these 2 different topics.

Moving on with the electricity value chain, as we are moving towards sustainable energy economy, energy transition is undergoing, and we are expecting major change to happen in next 7-8 years. If we compare ourselves to what we are doing today vs what we are projected to be doing into 2030, energy mix is going to change in a very big way.

Today almost 51% of the total installed base is coal-based and going forward this number would be close to 30% only. Because all future capacity addition that we are going to do, 85% of that energy is going to be coming from renewable or hydro resources. You can see here that today we are 160 GW of installed capacity in the total energy basket of 400 GW. This number is going to increase to 506 GW then the total installed would be 817 GW in 2030. So majority of this addition is going to be on the renewable side. And this is going to give many new opportunities for power sector also.

Talking about transmission, we have seen huge investment in the recent 5-7 years. Today, there is absolutely no congestion in the country. 99.9% of the time we have one nation, one grid and one price across the country. Area clearing prices has no meaning and has lost its relevance.

We are incurring more investment here. We are creating green corridors for the purpose of evacuation of green energy within the states. And we are further developing our interregional corridor. Today we have more than 110 GW of interregional capacity, which is enabling the market framework where customers are confident that whenever they need power there is enough corridor availability, they can be able to buy power from the power market.

On the discom side, the reforms are underway. We have achieved certain things, lot more things we have to achieve in times to come. Still, the AT&C losses are little on the higher side at 21%. Our target is to bring it down to 15% in next few years. We are also working on increasing collection efficiency. Till the time we have better collection efficiency, the issue of outstanding dues will continue. We have more than Rs 2,02,50,000 outstanding due as on today.

Government has taken lot many initiatives in this particular area. There is very recent one about one and a half year back when the liquidity infusion scheme was last launched by Government of India where in all the old debts were clubbed and then they were converted into EMIs. All distribution companies are given 4 years time to pay that in the form of EMI. These things are going to yield very good results and we believe that with this, more efficient DISCOMs, the power purchasing capacity of these companies will improve, and power market will eventually gain from these all these aspects.

The recent development where Electricity Amendment Act is being proposed, the main point of that amendment is to introduce competition in the licensee area on the distribution side. We want multiple licensees in the same area and provide choice to the consumer.

This is also one very important step wherein we believe that going forward with this being in place, DISCOMs will be more commercially sensitive. They would be able to take very prudent decision as far as buying of power is concerned. 80% of their total cost is power procurement cost and this will also help our market to evolve further.

On the demand side, we believe that electrification today is seen as a number one decarbonization lever. Whether it is about traction, cooking, EV, we have plans in place where we want to increase electricity consumption in the country.

So far in last 5 years, starting FY17 to FY22, we have seen generation growth or demand growth of 3.8% CAGR and as the economy is set to grow at 8 percent in the next few years, and then there are projections that demand is expected to grow more because of growth in the core sector, and transitioning to the newer technologies.

Deloitte has done a study where they have projected demand growth between FY23 – FY30 is going to be 6% CAGR. Till now we have been growing at a 3.8% which is going to accelerate to grow at 6%.

If I talk about the study, Deloitte has projected demand till FY27 based on GDP forecast and there is a strong correlation between electricity demand and GDP forecast. We have considered 90% factor and beyond FY27 CEA projections are available which is about 4.8 - 4.9% YoY, which have been considered. If you include everything, then you will get to this 6% growth number which we are expecting in the next few years.

Now let's also see how the different segments within power markets have been behaving in the past. We have compiled last 5 years data and this table represent last year data where out of the total generation of 1,321 BU, 86% was the contribution of long term PPA and 14% was contributed by short term and within this 14% short term overall market, 7.7% was the contribution of power exchanges.

Now today, Power exchange has emerged as the major segment within the short-term market, earlier it used to be 34-35% of the total short term market which has increased to more than 55% of the overall segment.

There is another segment which is for bilateral where it is direct transaction between DISCOMs and some of these transactions are also through trader. This segment comprises 4.5% and the remaining is DSM



which is nothing but overdrawal from grids which is contributing close to 2%.

Now if you see growth rate of last 5 years, the generation has been growing at a rate of 3.8% against this short-term market has registered close to 10% growth.

So within the overall generation in the country, short term market is gaining more importance. People are shying away from long term PPA. They are relying more on the short-term market that is why this growth is high and if we see within this short term market, exchanges are the one which has been growing at a very fast pace of 20%.

Today exchanges have emerged as the most preferred option among all the participants. Whether it is Open Access consumer, whether it is distribution company, whether it is IPPs who are relying on this market to dispatch their surplus power, all of them are dependent on power exchange. They are finding it most appropriate market to dispatch or to buy, and this is the reason why this growth rate has been very significant.

If I compare the last 5-year growth rate of 20%, with overall generation growth, which is 3.8%, it resulted to 20% growth of the exchange market. Talking about the ecosystem, exchanges, as you are aware, we started exchange in 2008, 14 years of operation till now and we got listed in 2017. We are ISO certified in terms of quality environment or security.

The overall market share last year. Our market share in DAM and RTM was 99.9% For RTM this was 100% and 99.8% in DAM and together it was 99.9% overall.

If I include everything such as DAM, TAM, RTM, green market, everything, then this number was at 94.2% overall electricity market share and we have been growing at a CAGR of 33% since inception, which is 2008.

Last year we did 102 BU out of which 96 BU was electricity 6 BU was certificates and in the peak hours, we have done trading of more than 20 GW in certain blocks.

About our consumer base, we have a very robust consumer base. More than 7000 clients are registered with us. All the distribution company more than 4000 bulk consumer, they are consuming more than 1 MW at any point in time and together they are participating.

Every day, we have huge participation coming from both buyer as well as seller. There are 200 - 300 generators who are participating 700 - 800

buyers who are there for every time block and the result is discovery of competitive price as exchange provides very flexible option for procurement of Power.

Energy mix is changing. Last year in FY22 majority, in fact, if I look back 3-4 years back, almost 95% of the electricity was through Day Ahead Market only. Now within last 2-3 years as we introduced many products, this number is evolving now. In FY22 64% was DAM and then another significant component is RTM market which contributed about 20%. So together they were 84% and then we had TAM which is about 5% and then Green market doing another 5%. So this is the energy mix, and if I talk about first 5 months in this fiscal, we have seen further change here.

Now the dependence on DAM has gone down slightly. The number is at 48%. We have seen another 30-35% growth in first 5 months in RTM segment, which we started in June 2020. It is just a little over 2 years old segment that we have seen tremendous growth in this segment. So together they are more than 75% and then TAM 11% and, 7% is coming from green market.

We have various types of auctions which are there. If I talk about DAM or RTM, these are exactly similar in terms of auction mechanism. Both, have closed double sided auction. In TAM, we have DAC and Intraday component. These 2 components have continuous matching. And then the 3rd option that we have is for weekly and daily segments which is open auction.

We have long duration contracts in the monthly and in all weekly contracts, yesterday we launched weekly segment up to 12 weeks in advance. All these segments have open auction mechanism and there is one more segment which is any day single sided contract. This is another way of procuring power which is similar to deep platform where we have reverse auction.

Moving on, talking about our market share, last year our total market share in electricity segment was 94.2%, which comprises of DAM again 99.9% RTM we did about 20 BU with 100% market share. TAM, we did 10 BU and market share was 56% and then green again, it was 78%.

We have seen drastic increase in TAM Quantum last year and this increase was because of one important factor, which was in the month of November 2020, a new regulation was released. CERC notified Open Access sharing regulation. Now in this particular regulation, in DAM and in all the collective transaction, which is DAM and RTM, there is a provision of charging of transmission charges from the generator side. So if you are a generator, if you are selling power in this particular segment, you have to pay transmission charge. Average transmission

charge today in the country is in the range of 40p to 60p depending on state. Every state has got different number so if you are an IPP situated within a state and you are selling in this particular segment you have to pay these charges. Same regulation provided one more provision wherein they said if you are doing bilateral transaction and the counterparty is a distribution company, then as a IPP, you don't have to pay transmission charge, which is again as I mentioned average is about 50p.

Some discrepancy was created between the 2 segments, suddenly it has become little easier or cost effective for IPPs to transact more in the TAM. Because of this particular provision we have seen there was increase in TAM transaction last year which grew more than 100% and this was the only factor which was responsible for this growth because otherwise all the DISCOMs in the country they prefer DAM because this is the market where there is a real price discovery. In TAM, it is in the DAC segment what I'm explaining to you where this 50p avoidance is there. There is no discovery, and it is on the basis of continuous matching.

Sometimes participants they use reference price of DAM and then do this transaction. After November 2020, this component started to increase and last year this was major which was about 10 BU in the year.

If I talk about this year, April to August, this number has further increased. You can see this last complete year it was 10 BU, this year in the first 5 months, it is 10 BU and the reason is the avoidance of transmission charge number one. And there is one more reason now in between what happened was there was huge scarcity of power supply. There was not enough supply available, there was too much demand. More so in case of peak times, which is in the evening hours.

Peak time every day we were getting so much buy bids. There is so little sell and many of these participants now they wanted to secure energy. So what they started to do, they are doing transaction off the market. These are bilateral transactions where transactions are agreed off the market and then they are coming to the market and settling this on the basis of DAM reference price.

So these 2 aspects have affected this particular segment and we have seen the massive increase in volume in the DAC segment, which is DAC where trading is done today for tomorrows delivery.

Otherwise, the purpose of DAC market is, you are participating in the DAM and for some reason we have quoted lower price. Now you want to have second option where we want to increase the price and participate again. This was the purpose of DAC market, but now since because of

this regulation where there is an avoidance of transmission charge, many participants have started moving to this particular segment and taking advantage of 40 – 50p. So this was the reason where we have seen increase in the value in this particular transaction.

If I talk about this year 5 months ago, our market share is 86%, this is less than last year and the major culprit here is TAM, particularly DAC segment where the value provided by all the exchanges is same. There is not much differentiation there, do this continuous matching and buy power.

If I talk about July and August because July was the month initial few days when the 3rd exchange was also started operations our market share in these 2 months is 89% and here also if you see DAM and RTM it is close to 100%. TAM is one segment where our market share is 43% and this 43% is considering that there are 3 different exchanges operational now.

Let's see the market trend. We have captured last 4 years here and if you see FY20 represented in red colour, you will see a straight line and FY20 was a year before COVID, so this was absolutely normal here. And you can see that as we have huge capacity, our peak demand even today is close to 200 - 215 G and capacity is more than 400 GW that time also capacity was much more than peak demand.

There was ample coal availability and throughout the year prices were close to Rs. 3. In fact, FY20, average price was Rs. 3.01 and in FY21 it further dropped. You will see in the initial months up to October when there was complete lock down on account of COVID in FY21, prices were below Rs. 2.50 also in certain months. So average price in FY21 was Rs. 2.82 and this was the year when we registered more than 30% growth in our electricity segment. This growth was there because there was no deficit in the country. Everybody had resources enough to meet that small demand which was there after the lockdown.

Some of these active DISCOMs were participating in the market to replace their costlier power. There was a cheap power available in the market, they were optimizing, they were buying and backing down their own generating stations.

Last year also this trend continued because initially if you see April - July, the prices were about Rs. 3 or less than Rs. 3. There was huge opportunity for distribution companies to buy and optimize.

After that, suddenly we started to realize that demand increase was more than expected, number one, because of economic revival. And second thing that we started to witness a coal shortage. Initially it was

little. After a while it went to be acute because this was a time none of the imported coal-based plants were operational.

In the month of October when government decided that plants like CGPL, Adani Mudra some settlement is to be done because we do not have enough resources available, we are dependent on imported coal. The directions were given to these plans to start generation and then we have seen correction in the prices.

November - February generally are the lean months and during these months' prices came down again to Rs. 4 level. It was around Rs. 3.50.

This year again when the demand started to increase in the month of March, April, these are again the months when the renewable generation is very less.

In fact, wind generation or hydro generation, it starts to pick somewhere in the end of May. These initial months, our dependence on thermal generation is very high.

And this time also we were facing coal shortage. As a result, there was not enough supply available. There was more demand which resulted in very high prices. Average price till now is Rs 6.76, but one trend you can see very clearly here this is we are seeing softening in the prices. First month it was Rs. 10 because the cap was introduced, CERC came out with the regulation that from 1st of April Rs. 12 cap on any given time block was introduced and average price was Rs. 10 and subsequently you can see that there is a lot of correction in the prices.

Price is a function of demand and supply. The purpose of the exchange is to match demand and supply and then discover the price and you can see here the month where the prices are high, red is representing average purchase which is buy and blue is sell. So there are couple of months when there is so much buy and so little sell and the result is prices were very high otherwise if you see before that when the price is worth Rs. 3 or Rs. 2.83 there was enough sell available and very little buy.

Let's see, what was the reason why this price increased, in fact went up to such a high level? We know that geopolitical activities have affected it. The gas supplies are impacted, they have started buying coal. There is lot of pressure on the coal prices, HBA index you can see here is at \$322 level in the month of August. If I compare it with year before it was just \$131, so more than close to 200% increase in imported coal price.

HBA may not be a true reflection because today there are multiple coals which are available but even if you compare variable cost of those different variety of coal, you will find that none of these imported coal-

based plants are able to generate at less than Rs. 6 - 8 depending on their location and depending on their time of purchase.

Other thing that has impacted us is our dependence on imported coal is very less, more than 90% of our coal-based requirement is met by domestic coal itself. In domestic coal side, what we have seen is the e-auction quantity was reduced for certain time blocks. Government intervened. In fact they started supplying more power where there was PPA available, Ministry of Power, Ministry of Coal, Railways all of them were working together. Wherever there were pithead plant, they increased those supply and in the process merchant plants were suffering because not enough coal was coming to the auction platform. They were not in a position to buy and generate, which has resulted into less supply on the exchange platform.

3rd important thing is the E-auction price, last year average if you see before sudden increase in the month of October, premium over notified price used to be about 20 to 30% only. This time what we have seen this premium has gone up to 354% in the month of August.

Now we are seeing some correction, in fact last some auction, we have gone, we have seen it is coming down to 200% but All in all, on an average basis if you see, there has been massive increase in the premium because people were comparing it with the imported coal and then they were buying at a very high price.

Same was the trend in case of spot LNG, where 2 years back, many generating station, coal / gas based generating station were sourcing gas and were generating this year, they could not do so because their variable cost is more than Rs. 25 - 30.

These were some of the factors which affected our power supply.

Sell side constraint impacted our sell at exchange platform. So if you see only the demand side this particular year, we have seen growth of 18%. But our cleared volume is not growing on the same proportion because there was not enough sell available.

One graph which I want to explain to you, we can see here green colour is representing sell bid. We have compared 28<sup>th</sup> July 2021 and 28<sup>th</sup> July 2022. This left side is July'21 and that side is July'22 same day.

We can see here throughout the day, there was ample supply available. These are 24 hours and all these time blocks, there was more sell available. Green representing sell. Red is representing buy here. You cannot see buy because entire quantum got cleared. The red is overshadowed by brown colour because the entire quantum whatever was there got cleared. And this is price blue colour. You can see this is

varying between Rs. 2 - 4, so on average the price was Rs. 3.20 and in none of the time block it went beyond Rs. 4.

Same day this year what happened? There was enough sell during the solar hours you can see during the daytime. You can clearly see there is so much quantum available, but some other hour, particularly in peak hour, and also morning hours, buy was so much, it was much more than sell and why this sell was not there because IPPs those who were earlier selling or distribution companies, those who are earlier seller, they do not have enough coal availability and hence they were not participating. This has resulted into price going up. Price went in the peak hours up to Rs. 12. Similarly you can see during the day hour also it went up to Rs. 7

So less sell more buy except for the solar hours, this has resulted into sudden increase in price and at this particular price point there is no optimization potential.

All those who are desperate buyer or those who just want to buy to meet their requirement, they are participating.

The point that I shared with you that demand increased by 18%. This 18% increase is only on account of deficit, not on account of optimization, because all those who want to optimize, they have not started participating now because they will see the price, if the price will come down at some point in time they will decide, and then they will start to participate. But now things have started to improve and there are so many trends which are available.

In fact, if you see on the right hand side, we are seeing lot more improvement in the coal inventory.

So in the month of September 21, when the price peaked, average inventory at power plant level was only 4 days. Today, this number has increased to 11 particularly in the month of August. There is visibility in place, there is certainty in place. Coal production in the first 4 months increased by 27%. Coal dispatched to power plants increased by 21%.

Generally, monsoon months are the months where we see the production goes down. This year there is no major impact. In fact in the month of July we have seen 12% increase, in the month of August we have seen 9% increase. So all these factors are pointing only one thing that going forward we can expect more coal availability and plants will start and situation is going to improve.

There are some more initiatives taken by government wherever captive mines are there, they have made certain amendments and now captive mines are allowed to sell up to 50% of their annual production in the market. Commercial mining, we have already allocated 46 blocks, couple

of them have already started production. Some more will start to produce in times to come.

These are some short - medium term initiative which we feel that if we sail through another couple of months then the situation will be much better going forward because all these things will ensure that there is enough supply of coal.

And on the price trend also you can see the prices have come down drastically. We have compared both DAM as well as RTM price starting from Rs. 10, it has come down to Rs. 5. So major correction there as well.

The outlook is looking positive now there is improvement in coal production and higher inventory will result into increase in sell. And once you have increase in sell, prices are expected to soften and once the prices will start to soften, optimization will come into play as round the clock power will be available.

Open Access clearance has come down drastically. In fact, as compared to last year this has come down by 60%. This number will also start to increase as the prices, or the supply will improve.

Implementation of GNA. The point that I discussed which has caused major impact, there has been some shifting away from DAM, GNA Regulation has been finalized. There is one more regulation which is responsible for this particular aspect. Open Access sharing of charges Regulation. This is also in a draft stage. We are expecting this to get finalized and notified in next 1 - 2 months.

Once these are implemented, then we will see the quantum increase which has moved away from DAM and RTM market and gone to DAC market will again come back to DAM.

These are some of the things which we are starting to see now. And with this we are hopeful that the trend that we were witnessing earlier will again be there.

Some other things which we have been doing in the past and we are continuing to do now also to increase the liquidity, because government also wants to increase liquidity as per the draft national electricity policy, they want the spot market to be 25%.

There are certain things which we can do to ensure this to happen.

The CFD mechanism, RE capacity addition, the point explained by Mr Goel, where we have done detailed study, we are hopeful that it is in a very advanced stage. Government is taking it very seriously. The tool is



being created once we have tool in place, some capacity addition will surely happen through this particular model.

Merchant RE capacity, there are talks going on, some capacity they will be keeping for merchant. In fact in the recent storage tender they kept 40% of the capacity only for the purpose of merchant capacity, which means that you have to take this capacity to the market and dispatch it as per commercial concentration.

Unallocated power is there with the central Generating station. This should ideally come to the market, and if this comes to the market, this is also a sizable quantity.

This will increase the liquidity on the sell side and once you have liquidity, there are people who are taking this power. So both buy as well as sell side will come to the exchange platform.

No renewal of existing PPA, the regulation is already there, so these are not perpetual PPAs now. If the tenure is over, you have to come out of that PPA and then you are free to sell this power.

I believe what we are advocating is ideally after the completion of the tenure, everybody should essentially come to the market because your debt return period is over, your fixed charges already gone. It has been settled. You should ideally come to the market and then start trading this power on the basis of your marginal cost.

There would be a time where your recovery would be very high. In fact this advocacy we are doing with all the generating stations, government, and DISCOMs also so that the both side liquidity can be maintained.

Aggregator is another beautiful concept which is available globally. We in India have only traders so today traders are not allowed to take position to aggregate the demand of very small consumer. This is one thing which we have been discussing with various agencies and we are hopeful that in times to come this will also get implemented.

This will be more relevant when we are going to implement Green Open Access because if you are going to have consumer as small as 100 KW, it is always better to have aggregator who can do or take position for 50-60 or 5-10 consumer in advance and then do that settlement after taking that position.

Generators including renewable can buy from the market for promoting efficiency. Till now what we are doing is we are doing optimization only on the buy side. If you start to allow generator to take the decision of either generate or buy. Ideally generator should be allowed to take decision whether I want to generate or to buy from the market.

There are times when the variable generation cost of generating station is more and market prices are low. They should be allowed to shut down their unit, buy from the market and start to fulfill their commitment. This is another area where we have been working.

Gross bidding we have discussed in the past also. It is nothing but voluntary market based economic dispatch (MBED). There are lot of issues in implementing MBED, states have their own set of concerns, but you allow this on voluntary basis. So you don't have to go for entire MBED. You can start with 20% of generating station and then start to realize the positive results and then further extended.

Coal allocation for merchant capacity, the entire issue that we have discussed till now, there is no coal availability with merchant power plants. They are dependent on either E auction or imported coal market to buy this. If we start to give some coal to these generating stations, then the supply can be a little better and such situation can be avoided completely in future.

Our capacity market is another thing where lot of discussions are underway. In fact, resource adequacy requirement is being chosen now. Every state will have to adhere to this resource adequacy and for the purpose of having enough resources they have to enter into a contract to secure capacity, now this will provide opportunity for markets to introduce capacity, number one, and that energy will also come to DAM.

So this will help us in 2 different ways. One is having capacity contract and second is increasing liquidity in the day ahead market.

Moving on to policy and regulatory update, deepening of the market has been one of the major agenda of the ministry and introduction of suitable mechanism including capacity market, which they have mentioned in the draft national electricity policy, the point that we have already discussed, competition, competitive procurement for distribution company through exchange, which is again one of the major agenda.

The electricity Amendment Bill, 2022, where they want to introduce competition. This is going to be one development which is going to be very favorable for the markets.

Energy Conservation Act, Amendment Bill 2022, which has recently come has given road map for establishment of carbon markets. This is another area where we are very positive. We are working very aggressively and we see there is a need of number one, there is a compliance market which should be there, the current REC and ESCerts markets which is not completely representing carbon, but going forward

we can have one market where this can also get subsumed and then on top of it, there could be many more things which can be part of compliance carbon market.

Then there could be various other opportunity in carbon ecosystem, different finance schemes within that and then there could also be a voluntary carbon market. All these things are there across in Europe in US, many other geographies, and we are hopeful that in India also there is a huge case and we will have very dynamic market.

Draft electricity amendment rules where the concept of central pool mechanism is introduced and also resource adequacy guideline, again the same thing in all the new developments resource adequacy is coming very prominently, which means that capacity market is not very far away.

Electricity derivatives, we have discussed multiple times in the past, but this is also in very advanced stage now. Both SEBI as well as CERC, the joint working group, they are working and almost the contracts are already there. In case we expect that another 2 - 3 quarters this will also get introduced.

Some other positive regulatory updates like late payment surcharge related matter. Now this is very important. You cannot have sustainable system in place if you stop paying. You have to pay and in this particular thing, what they're saying is today they are only paying when they are buying power from exchange, but there are so many other contacts where they don't have to pay.

So sometimes when we discuss with distribution company, they say we prefer short term bilateral contract or long-term contract because there is no payment obligation. We can always defer this payment. So we are very positive if this gets implemented then all the contracts are at same level. You have to pay wherever you are buying power. You cannot do deferment of payment beyond a certain time and in that case as an exchange, we gain more importance.

Exchange will get more preference because if I have to pay there also then I would go to a platform which is most competitive where the cost of procurement is less so, that way we see this as a very powerful thing.

And then GNA regulation, which I mentioned that duplication of charges the issue that we are facing today will get sorted out. With the implementation of sharing of Interstate transmission charges and losses regulation, which we are expecting in another 2-3 months.

Green energy Open Access will open doors, in fact, this will create a new market. Today, when we talk about 4500 registered customers, these

are all bulk consumers. Their contract demand is 1 MW and above. If I reduce 1 MW to 100 kW, there would be lakhs of more customer who would become eligible to participate in the market.

So we are seeing this as one major development and the concept of aggregator will also come and then everybody who is consuming significant amount of electricity, he should come to the market platform.

New ideas. We have covered some of these. In fact RE capacity addition through markets, it has 2 components, one is pool base, second is merchant RE. The point that we have already discussed one thing coming out very clearly on the basis of study realization can be much more than the present competitive tariff that is being discovered Rs. 2 – 2.20.

Here it would be much more than that. Why It could be much more than that? The demand is set to grow and then you can have hybrid model also going forward. You can have wind, solar, or supported by energy storage and the very detailed study has been done by that. If anybody is interested, we are more than keen to share this study with you.

Carbon markets we have discussed it has various components in it.

Coal exchange is one area where we are hopeful that the kind of thing we have done in case of gas. Similar initiative we can take in coal and we could be the front runner in this particular new initiative.

There are other many other opportunities, including the virtual PPA. This particular model is very common in many other places, including Europe, US, where corporates are taking position and are entering into a bilateral contract but they are only taking green attribute. So between A & B there is a contract for 5 MW or 10 MW renewable power B will be giving this green attribute of 10 MW to A and rest he will be selling in the market.

Which means electricity will be sold in the market. Similarly, A will be meeting his power requirement by buying from the market or DISCOM or anywhere. So all these entities which is buyer and seller will utilize market or other areas to meet there or discharge their power requirement and they will be doing settlement on the basis of green attribute being getting transferred.

In India also this has started, and we are expecting this will also enhance liquidity in the exchange market.

P2P trading is also being done in various places. Many pilots have been done and in India also there are 2 - 3 pilots. One done in Delhi by Tata Power and one done in UP. We have partnered with Power Ledger, and

ISGF and together with these partners, we have bidded for one such pilot in Greater Noida. We are working in this area also and we are very positive going forward this will also create new market based mechanisms.

Green hydrogen battery, energy storage system, these are again new things where we are watching these developments very closely and trying to figure out where market plays very important role.

Green hydrogen is again something like gas where you can always trade on exchange platform number one and then if you have to generate RE or Green hydrogen. Then you need RE power. So exchange could be one place where you can source this power and then convert it into hydrogen.

These are another new and then auto bidder solutions are there. Globally it is very popular where you have a battery storage you want to buy from the market when the prices are lowest and you want to sell in the market, when the prices are highest. In our case, if you say during the daytime solar hours prices are lowest, in the peak hour it is high.

There is so much delta available and if you have a storage plant, you can always utilize this delta and then your realization can be much better than this.

Just to summarize last 2 slides. The thing that we have discussed already whereas both potentials from the existing market, the new product that we introduced starting 2020, 1st thing that we introduced in June'20 was real time market which has been doing exceptionally well year on year we are seeing 30 - 40% sort of growth and it has tremendous potential.

Moving forward, as the renewable proportion in the country, as the energy mix will change, this segment is set to grow. This will see the greater heights.

Green segment, in fact we launched GDAM, we started very recently in October 21. This also has got immense potential. Till now, the participation is only from DISCOMs. Some of these DISCOMs like Karnataka, AP, Telangana, they have surplus renewable power. They are meeting their purchase obligations still they have surplus.

So they are selling this power in the market. Going forward we see lot more participation coming from merchant generators.

There are couple of merchant generators those who have participated and they have realized the value of it. They have been selling power at Rs. 7 – 9 and have had got very good realization. This is another

segment. We consider this at a very nascent stage this has a lot more potential going forward. This is going to be the one major segment that we have.

Cross border has started really well. Nepal initially started only buying. Subsequently, today we have got 365 MW of capacity registered with us from Nepal and on daily basis they are selling 7 – 8 MU.

This is very big support to us because this is the time when we need round the clock power and all these hydro generation generators are selling RTC power supporting us in a big way.

This has to go further. In fact, Bhutan, Nepal already registered. Going forward, we will have Bangladesh also and Bangladesh has got tremendous potential, much more than Nepal and Bhutan.

Longer duration contract, we in fact have introduced all the different segment whether it is monthly, whether it is weekly transaction has started to happen. Forward monthly transactions have happened recently, there are 4 - 5 contracts which got executed. There are many contracts which got executed for next week or next to next week.

Reverse Auction, we have done 24 reverse auction in last two and a half months there we have not seen many LOI get signed because the price discovered today is very high. And why price discovered is high because many of these generating companies, they don't have certainty of coal supply, so they are quoting Rs 9 - 11 and distribution companies are not willing to buy at that price.

But as far as acceptability of the market is concerned, it is immense. There is a lot of participation 24 reverse auction in 2 and a half month is an achievement itself.

Ancillary market, gross bidding we have discussed. Launch of derivatives will also provide hedging opportunity which will increase liquidity in the market.

Capacity market is another area which we are very positive about. RE capacity addition through exchange contract for differences, again not something which has been discussed.

IGX it is again at an initial stage. Robust volume growth is expected over next 5 year. Coal exchange, carbon market being explored. We are open to any other opportunity in energy market.

Spot market share is to increase significantly as per the regulation and all these regulations they talk about market, new segment, rationalizing of the transmission charge, the point we discussed.

GNA means you are given certain quantity, now you are free to buy from anywhere. Today the system is you have taken LTA against some contracts, so you cannot go out of that contract and start procuring from elsewhere. So if you have GNA in place, as a state you are entitled to draw 10,000 MW. It is for you to decide, you can easily go to exchange market and buy power. You don't have to pay transmission charges at all. So this is one thing which is going to help market in a very big way.

Coal supply is expected to increase. In fact, there are very decent targets taken by government and we are hopeful that if half of these targets are met, then we will have enough coal in the country and the problem that we faced last year and this year would not be there. And finally, we always maintain one thing. Our growth is dependent on incremental demand of the country if you are getting incremental BU, then large part of that BU will get captured by exchange because no new long term PPAs are being signed.

Earlier, PPAs were signed on the RE side. Today, in fact that has stopped. We are not seeing too much momentum there where states are entering into too many contracts, even for RE, so the incremental demand, the growth which we are expecting, for last 5 years, this number was only 3.8% where we saw growth of 20%. Going forward, this number is going to be 6%, so we are optimistic that this will give us even better growth.

Thank you so much. That's all from my side.

**Amit Kumar:**

Good evening, everyone.

Thanks a lot, Rohit for sharing details regarding the current business landscape, the future opportunities, and the way forward. The next topic is a good extension because eventually customer centricity will play a key role.

If customers get the most value from our platform with all the future opportunities and the policy developments that are favoring the short term market and power exchanges, this in general would ensure that we get the maximum benefit out of that.

So in this section, we'll talk about how we look at customer centricity and what are some of the key areas that we have been working on.

Our vision is, creating a customer centric energy marketplace through efficient state of art technology solution. This is the key theme around which we work and we do deep customer engagements to try and understand what are the various products and solutions and services that if we offer to customers, it will help them get more value from our

platform. And then we look at using technology to build those products and solutions because eventually technology led products and solutions are more scalable in providing benefits to the customers. So this is the central theme on which we work around offering experience and solutions to our customers.

If you look at the customers that come and trade on our platform, essentially, they are having these 4 different interactions with our platform. If there is a customer who wants to trade on our platform, the first activity is they have to go through the entire registration experience.

Then once the customers are registered, then there is the bidding activity that happens. So there's a bidding experience that the customers have and for the transactions that get cleared on our platform, eventually the physical delivery which is the scheduling aspect has to happen and the financial settlement needs to happen.

These are the 4 touchpoints which customers have day in day out with our platform and our view has always been, how do we keep on innovating to provide more experience solutions and how do we improve the experience for each touch points?

The idea is that on the registration front, we keep on focusing on digital solutions, frictionless and making it very quick so that customers can have a very fast turn around time in getting registered on our platform.

On the bidding activity front, our focus is how do we make bidding activity easy for the customers with very less manual effort and they can place bids on our platform.

Then we offer multiple product options to the customers and that is very important because during the different times of the year, different customers will have different needs and those needs can be well met through different bouquet of products. So if we have a large set of contracts to offer to our customers, it helps them utilize our exchange more effectively for their power procurement needs.

Efficient price discovery that is very important and that is one of the reasons why you see in this presentation, we have seen our DAM and RTM segment is almost 100%. DAM is 99.9% because efficient price discovery is very important value addition that customers get from our platform.

Data insights - for customers to be able to bid effectively on our platform, there are lot of data inputs that will enable them to come up with an effective bidding strategy. We have built a data insights solution



through our web-based platform and we provide those details to our customers on click of a button.

On scheduling front, there is a lot of activity that we do, to completely automate the entire scheduling process. Real time communication is important because at times there will be scheduled reviews that will happen. So how we can build a very efficient real time communication process? That is something that we work upon and with the launch of RTM and National Open Access Registry, the need to have a very tight integration with NLDC systems is very important to ensure that all the activities around scheduling can be done efficiently. That is something that we focus on the scheduling area.

And on financial settlement, on time payments, our track record has been in the last 14 plus years of our operations, we've always done on time payment and something that we have maintained, and we are proud of that.

Robust risk management, we have a very robust risk management in place, not only just for near term contracts, but also for the contracts like long duration contracts that we have recently launched which gives confidence to market participants that if they come and trade on our platform, there is a very robust risk management in place to take care of the transactions.

And easy reconciliation because eventually when customers are doing lot of transactions, they have to do reconciliation activities eventually. So how do we build solutions which can really provide easy reconciliation? The focus area is how do we continuously improve the experience on all the touch points?

Rohit talked about in the way forward slide some of the new products which are one of the growth drivers for our platform. If you see starting from 2020, every year we are launching multiple new products to provide a very extensive product portfolio to our customers.

In 2020 we launched real time market and green term market. Last year we launched Cross Border Trade and Green Day ahead market. This year we have launched the reverse auction with the LDC approval that we got and then we have extended the weekly contracts which was earlier for nearly a week. Now it is available for delivery up to 12 weeks for customers to trade.

We also launched the monthly contracts, which was again something that was approved as part of the LDC approval.

And daily contracts which was earlier available to just 9 days. Now it is available to 14 and from this Friday onwards it will be for 90 days.

These are some activities that we keep on doing, we keep on adding bouquet of products and if you see that these products are really helping drive volume growth. If you see in the last section, what we have mentioned is that these new products are contributing to almost 39% of the total volume on our platform. These are really helping customers utilize our platform in a more effective manner.

And like I talked about the customer interaction touchpoints, here I'd like to give examples some of the key activities that we have done for our customers.

On ease of bidding, we have built the API based automated bidding solutions for our customers and there are multiple customers who have integrated the entire bidding process through our API and they are taking advantage of this automated bidding solution.

Just to give some data points, like in our real time market, almost 40% of the cleared volume on the sell side is from members who are integrated to the API process and on the buy side almost 30%. This is something which is really giving a lot of benefit to our customers, and we are constantly seeing new customers integrating their bidding solution using our API. And with the advantage that customers have got through RTM API solutions, we are now extending the API based solution for other product segments also so that customers can take advantage of automated bidding across all product segments.

We've also built bid creation tool, so there are customers who may not have sufficient technology infrastructure in place to do the API integration. For them, how do we do Ease of bidding? We have built a bulk creation utility which we give to our customers which they can use to upload bids onto our platform with very minimal effort.

Integration with national open access registry of POSOCO. This is something which has really made the whole bidding process very seamless, specially from scheduling and reporting and the NOC perspective. This is something which gives good experience.

Auto carry forward of uncleared bids is something which helps customers, that is if they have placed their bid within one product segment and if it is getting uncleared, they don't have to manually place that bid in another product segment. If they want to take advantage of automatically carrying forward of those bids, that is something that our platform offers for some of the product segments, and we will extend it to all the product segments in near future.

Seamless DC - DR transition, because we are 24/7 exchange, it is very important that our exchange is available no matter what and for that a

seamless DC - DR transition is very important to ensure our business continuity. Even if something happens on the DC side, then the DR can ensure bidding continuity for our customers.

We also built web-based platforms to enable customers get many value-added services from that. There are data insights as I talked about which gives them insights on multiple data points around the volume trend, price trend, uncleared volume, how it is distributed from the clearing price, demand trend under drawal trends or comparison around price across product segments. Comparison around DSM frequency, DSM rate with RTM. There are multiple valuable insights that customer get from this which help them come up with effective bidding strategy.

Digital onboarding experience which is linked to the entire registration experience for the customers, easy access to trade and operations report which is linked to the whole scheduling related experience for our customers, financial reconciliation, very easy, one click reconciliation through the web based platform and web-based bidding is something which we already have for the long duration contracts, reverse auction and monthly contracts.

And very recently we have also made it for DAM and GDAM segments and subsequently we are going to make it available for all product segments.

Easy user management access, the web platform provides ability to our members to provide access to various features and controlled access for their own organisation, and also to help their clients on their own and in a very secured manner, so this is something again that gives a lot of flexibility and helps them gain lot of value from our platform.

These are some of the customer centric activities that we have done and in the process of doing to ensure customers get the maximum value from our platform and we are going to completely focus on doing more innovations around this.

With that I would like to thank you for patiently hearing customer centric initiatives and now I request Sangh to come and talk about the technology solutions, some of the focus areas that we are working on. Thank you.

**Sangh Gautam:** Thank you, Amit for giving a background on the customer centric initiatives that we are taking.

As Amit was talking about the technology statement that we had by creating our customer centric efficient in state-of-the-art marketplace, on the customer centric activities, a lot of the things I think Amit has already covered.

I would like to say that in order to achieve all of these we have in-house team and we are continuously working in order to make sure that they are using the state of the art technologies like angular, all the open source technologies to give a digital experience to our customers.

Even the ease of bidding part which Amit talked about, there also we are using the right kind of architecture. Whether it is service oriented architecture or any redundancies that are needed, we are able to provide to our customers.

We focus a lot on security. Being an exchange it is of utmost importance to us and we are going to soon launch internally a kind of a 24/7 security operating center (SOC) which will monitor the security aspect 24/7 for us. And I think we will be one of the few companies which will have this kind of a setup.

We also have worked with various agencies in order to create a cyber security framework within our company and all our policies that we have and all the developments that we are doing, we are following a very robust cybersecurity framework. In order to make sure that our platform is very secure.

In terms of efficiency, we did talk about all the product segments. We are not going to go in details, but I want to ensure that in order to build such a comprehensive product portfolio, we had taken up a kind of a re-architecture in some manner so that we can launch all these product in a very quick way.

Right now whenever we get any of the compliance requirements we are able to fulfil those requirements very quickly because we have such an architecture available so that we can launch contracts in a very seamless manner.

We've taken automation very seriously inside. We have now started using robotic process automation (RPA). We are using UI path for that which is again one of the state of the art automation and that product is helping us in our uptime. It is also helping us in alerts and notifications.

All the integration that we have done internally using APIs, for example with our SAP system, we have been able to achieve that using that automation solution. We are ensuring that you know in our entire process that we have, and Amit talked about the back office, the financial reconciliation, etc. all those processes, we want to eliminate any manual intervention and we have been able to achieve that by using automation inside.

Scalable - The way the architecture is, we have no problem reaching out or adding more customers. We have no issues even if the number of bids

increase, we have been able to manage 99.9% uptime in RTM segment and we are moving towards 100% uptime as well.

And both on the hardware and software aspect also wherever needed we have used the state-of-the-art hardware and also any virtualization layer that is needed and this entire hardware and also the software as I said earlier, this is all an internal team so we are able to use the best of the technologies and also train our team according to the architecture and the needs that we have.

State of the art - NOAR is something which has really helped us in automation and also being able to provide the data in a very seamless manner to our external agencies like NLDC or POSOCO for that matter.

MILP which is a globally recognized algorithm for giving the best social welfare in optimization, that has been used.

Data for achieving the kind of data insight products that Amit talked about, we have a data warehouse internally. We are using power BI insight and we have also provided a lot of visualization charts and a kind of experience for our senior management where they can slice and dice and get access to real time data in a very seamless manner.

We are following this vision for around at least 2 years now and I think we will continue to deliver on these.

This is a framework that we had created around 2 - 3 years back where we had recognized, where our system was around 2 - 3 years back and where we want to reach, you know, within let's say next 3 - 4 years.

Earlier we had manual workflows. It was a monolithic architecture that we had, very desktop-based system, disparate systems, limited products, and all the developments that we were doing were inhouse. Now I can say that we have created an automated digital mesh within the entire product offering that we have.

There is a seamless data exchange that happens within all the different systems. We have created a kind of a digital twins by using service-oriented architecture and also being able to do any bank related integration in a very automated manner using that architecture.

We are now on all the platforms, not just desktop. We are focusing a lot on the web-based system. We are transitioning towards that and we are hoping that within a very short period of time all are offering, all our product segments will be available on web-based systems.

Earlier as I said, we had very disparate systems. Now we have very intuitive, and secure systems. I talked about the the 24/7 SOC center that we are building.

We are also making sure that any UX that we have on our system, we take kind of a survey driven approach where we go to our customer we first discuss the kind of designs or the kind of the interface that they need and we give them all the options and we actually innovate, design the system with them so that really helps us to bring the most optimized solution to them.

Risk management is also which we are soon going to launch. A lot of it we are already taken care of, but now we want to have a kind of a unified risk management system as well.

Our products are all very configurable. You know, as I talked about, we have a, we have a scalable architecture now. We have been able to launch LDC, green contracts and also RTM using that scalable architecture.

At least a couple of years now we have been able to create very strong partnerships across industry and are working very closely with GMEX which is providing us the technology for our IGX platform and also you know companies like Nagarro, Capgemini, and TCIL, we work very closely with them. Any solution that we need to build, we are able to get the best expert advice and build our new technology.

I would say we have a very reliable, scalable and a secure system and we are ensuring that we are bringing the best value to our customers.

Thanks. And with that, I will ask our CFO to cover the next points.

Thank you.

**Vineet Harlalka:** Hello and welcome everyone. We heard Rohit, Amit, Goel sir, and Sangh, but ultimately it is all about numbers. What is the final numbers which are coming which drives the value for the shareholders?

Whatever we do if it's not reflecting in the numbers, somewhere it's mission missed.

I will look at what we had achieved in the last 4-5 years. You must be aware of the numbers because we had been presenting our results on the quarterly basis.

The company achieved the CAGR of 16% on the volume for the last 4 years.

The volume increased from 57 BUs to 102 BUs during FY22 and corresponding revenue with CAGR of 17% increased from 256 to 478 crores, and EBITDA margin has increased significantly from 82% to 87% and PAT is grown by almost 23% CAGR from 132 crores to almost now 303 crores. This is the value that IEX has created.

Overall, if you look into the financial expenses side, the majority of the cost is manpower cost and other operating expenses and despite increasing the revenue by almost 16%, the cost has only increased by 7%.

And on the corresponding side, you can see the operating expenses, the percentage of total income has been coming down. That's the reason our EBITDA margin increased from 82% to 87%.

We also want to highlight the technology cost as technology has been the focus for IEX management. Over the last 5 years since we setup the inhouse tech team in IEX in FY18, the company is regularly upgrading the systems, processes to have a more robust system which has been explained by both Sangh and Amit.

Overall, this is just the highlight of what the company has been delivering over the last 4 - 5 years and what is the thought process of the management and commitment to create value for its shareholders.

And this reflects the value which has been created the company.

IEX has been regularly paying as per the dividend policy more than 50% of its profit as dividend. The value of the shareholders, if you look at the growth has been at a CAGR of 25% which is a quite a good value which we have been creating for the shareholders.

This also reflects the faith shown by the shareholders in the company. I remember post IPO in 2018 when we used to see, the company had a shareholding of around 50,000 to 60,000 shareholders, now we have more than 17,00,000 shareholders and the company has a paid-up capital of almost 90 crores reflecting enough liquidity in the market.

Now I request Mr Mediratta to give you insight on IGX. Welcome Sir.

**Rajesh Mediratta:** Very good evening to everyone. Seeing many of you after long time, it's a real pleasure. I would be brief on the initiative which we started in 2020. You know that we have been operating spot markets in electricity.

We were also closely monitoring from 2008 onwards that should we also run a spot market for gas and looking for opportunity.

We were waiting for a few enablers to happen and expecting the government to issue a regulation on gas exchange and then we will launch. But in 2019, we decided, why not start a market as a trading platform and then seek government's acceptance and then they may issue more regulation and then we will apply under regulation and get the approval and then start the authorized gas exchange. We were very, very fortunate, what we thought and the same thing happened like we started as a trading platform in June. And then the government supported us, our initiative. They saw the market reaction. They were convinced that this is the right thing to do. They issued a regulation in something like September 2020 and then we applied under regulation, got the approval. Within 3 months by December and we launched as an authorized gas Exchange.

It was very good of us that we took that risk of starting a gas trading platform and then we got in as an authorized gas exchange. So that was the beginning of a new initiative which we were waiting and we are the only one running 2 spot markets in the country and it has been good operating this way.

In IGX we had to create regional hubs which in case of electricity was not there. We started with 3 hubs and then later in one years time we required some more hubs to create, overall we now have 6 regional hubs. Then we had started from day one, all the 6 contracts. So starting from there to going up to a month, going up to a quarter. For every time frame people should be able to buy. There is no issue of long term as what we had faced in case of electricity. So we started with forward as well. We expanded from up to 3 months later contracts to 6 months. So today we are providing this platform for trading up to 6 months.

The price discovery models are similar. The contracts are rupees denominated. This was something different in case of gas sector because most of the contracts in gas are designated in dollars. So we changed that practice and we also provided option to industry to start with, to do a trade in small quantities also.

In last one and half years, we've gathered a good ecosystem about 31 members and 75 plus active clients and almost all major entities are now part of our ecosystem. Most of the big players like IOC, Petronet, etc all of these are members. There are few members who are trading as clearing member who can facilitate trade on behalf of others and then industries are part of the client ecosystem now.



So far we have traded about 203lakh Mmbtu. And we achieved the break even in the first year of operation, that I think is the first time for any gas exchange to achieve breaking even so soon. And then we in last year, the first year of full year of operation, we traded about 1.21 crore MMBTU and we got all the major investors on board. NSE, GAIL, ONGC, IOCL, ATGL, Torrent Gas and this year we achieved one more milestone of facilitating trade for domestic gas. So far domestic gas is not being traded on any market platform. We did advocacy for allowing sell of Domestic Gas having M&P freedom. Trading commenced for domestic ceiling price gas on 23 May'22 and total domestic gas traded till date is 8.5 lakh MMBtu.

There are few things which we were looking for from the government like, one is of course gas to be coming under GST.

Then unified tariff, access code because there are lot of reforms to be done on the access regulation. So whatever we call as Open Access in case of gas, this access code where framed in 2008. Now they are due for revision.

We can facilitate trading with a very short notice. But since the access code does not support that, so we are not able to do much trade on the near-term delivery like Intra-Day, Day-Ahead.

The pipeline operators can take up to 3 days for capacity booking.

So that is, there are similar issues of stream.

There are many things to be improved at the pipeline operators level.

For that we are looking for change or access code review reforms and then this CGD exclusivity which is equivalent to Open Access in state.

That is also actually yet to happen.

And then Transmission System Operator (TSO), today there is no system operator in gas. We are looking for creating a system operator because there are multiple pipeline operators, but everyone has got their own processes for capacity booking and confirmation and other issues relating to scheduling, nomination, actual allocation.

So all of that we need to streamline and for that we feel that there should be a system operator and we have been working with the government that we should have a TSO also in place. So these are few areas where we are working closely with the government and the regulator.

Currently the prices of gas have gone up and then we see there is resistance because spot market need lower prices and when we want to

increase spot market there is some constraint coming because of higher gas prices.

Over next one year and beyond, there will be much better conditions for gas sector because one is that already CGD bidding rounds have happened and now more than 95% population is covered in the CGD and these networks would be put in place in 2 to 3 years time. And then there will be a lot of demand coming from CGD sector.

LNG terminal capacity is expected to grow from current 42.5 MMTPA to around 72 MMTPA in 3 years and then we can import much more energy.

Today, transmission pipeline network is also expected to grow from 20,000 kilometer to about 35,000. That will create a countrywide network.

Declaration of Open Access, this can happen in this financial year.

Today, the total spot market is about 13% of total consumption in the country. We expect that to go to almost 20% because government is putting a lot of emphasis on creating a gas based economy.

And we know that lot of things are happening, supply conditions are improving, demand is also going to improve. So we see that overall demand which is about 160 MMSCMD can grow up to 500.

If we have 20% of that on the spot market or short-term market and out of that we can take a pie of something like 20%. So we can actually do almost trade volume of something like 20 MMSCMD which is also about 30 Crore MMBtu. That is the potential we see in the market.

So everything is aligned to the demand. Lot of things are happening.

Of course, there was less investment coming in the gas sector all over the world due to Covid, so that actually created a pressure on supply side. Now lot of investment is coming to the gas sector, terminal capacities, pipelines, gas production, there's lot of focus. So we expect that all of this will help us to grow.

I can leave if and any questions or there will be able to take it later so I will pass it on to Aparna. Thanks.

**Aparna Garg:** We will now begin with the Q&A session. Allow us a couple of minutes to set the stage.

**Aparna Garg:** I now invite the Management team of Indian Energy Exchange to kindly be seated on the stage and we can commence the session.

**Speaker 1:** I wanted to understand what kind of a problem does a long duration contract really solve for our customers now with RTM, there was a real need to get rid of DSM charges being levied on them. But from a customer point of view, why should he tie up power for 90 days in advance when there's clearly like you've mentioned that there is no visibility on coal supply and essentially price of the power, so what's the real value add for a customer there?

**Satyanarayan Goel:** Yeah, there are few customers who have seasonal demand in state like Punjab. They need power from the month of June to September for meeting the requirement of agricultural load during the paddy season. Similarly, it is seen in case of Madhya Pradesh also.

Himachal Pradesh in the winter season, they need power. So seasonal demand normally is for a duration of 2 - 3 months and they would like to tie up that power because instead of buying power on every-day basis, they would like to tie up on monthly basis.

That is why we have bilateral market where almost about 50 – 60 BUs of contracts are traded and that is the opportunity for this long duration contracts also. There is a need in the market, and we expect that good part of that need will be served by the exchanges in future.

**Speaker 1:** So this is mostly replacing bilateral trades.

**Satyanarayan Goel:** Yes

**Speaker 1:** Makes sense. And the second question was on the day ahead market, why do we want to separate day ahead market and green day ahead market? Wouldn't it make more sense to keep liquidity higher in a single platform, which enables higher price discovery and more efficient power purchasing needs?

**Satyanarayan Goel:** I agree with you. But then you know when we have green day ahead market by purchasing power in the Green Day ahead market they can meet the RPO obligation whereas the day ahead market is the conventional power and there is no RPO obligation under that. So most of the states are buying green power in the Green Day ahead market and that is why there is a separate market.

**Speaker 2:** There is this new exchange, like PXIL and HPX coming in as competitors to you and some of them are backed by NTC, PTC and all. So in light of these new competitors even your PPT was showing that your market share is dropping, so is it just a matter of time that you will have to take market share drop? What's the thought?

**Satyanarayan Goel:** I think it was very well explained by Mr Rohit Bajaj in the presentation that the drop in market share is not because of the competition. The drop in market share was mainly because the volume shifted from that day ahead market to the DAC market. DAC market is the market where the price matching happens and in the day ahead market the price discovery happens. Our USP is in the day ahead market and the RTM market.

And why this shift happened? Because in the month of March, when power was not available, many distribution companies to secure power to ensure availability of power at any price moved to the DAC market and they also saw that there was an arbitrage available because of the anomaly in the transmission charge sharing regulation. So some transaction started happening in the DAC market.

And in the DAC market, whether there are 2 exchanges or 3 exchanges, because there is no additional USP by any particular exchange, these are one to one transactions, kind of bilateral transactions. So transactions are happening in other exchanges also.

With the implementation of GNA, this anomaly will be corrected. In fact, collective transactions will have more preference in the transmission pricing and I am very sure that that shifting which has happened from DAM market to DAC market, the volumes will move back to DAM.

And in DAM, our share is 99.99% plus and in the RTM market it is 100%. So I don't see any issue in retaining that share in the DAM and RTM market. And I don't see any challenge because of competition.

**Speaker 2:** Sir, but in future with NTPC kind of organization backing these exchanges..

**Satyanarayan Goel:** Well in that case, we are already working in a competitive environment from the last 14 years and other exchange also had investors who are from the power sector and most of their investors are trading on IEX platform and I'm sure in case of the third exchange also similar situation will happen because for a buyer or seller it is more important for him to ensure that his volumes are cleared. That's important for him, not that what is going to happen to the investment which he has made for him. If he's not able to sell power, the opportunity is lost for him. I don't think investment in exchange will be a consideration and in any case, you mentioned about NTPC, it has capacity which is 100% tied up under PPAs, so they have no power at their disposal. So I don't think that should create any problem.

**Speaker 2:** COVID time was one of the best times, we had the best tailwinds and now that the best of the times are being behind, from here the headwinds have already started to hit us. So how do you see the next 2 years? Because it's a low hanging fruit during the COVID time. So, what's your thought in terms of going forward?

**Satyanarayan Goel:** During COVID time, the demand was less, coal availability was better, the price discovered were lower and because that offered lot of opportunity to the distribution companies for optimization and industrial consumers to buy power from the market.

March onwards this year, because of the coal shortage, the prices have increased. It is not only domestic coal shortage, but also in the international market, the imported coal prices have increased significantly higher and many of the imported coal-based power plants are not working in the country. LNG prices have increased. Because of that, the prices have increased in DAM and RTM market, and it is not providing any optimization opportunity.

But I'm sure the kind of initiatives which have been taken by the Government of India to increase the coal production, coal production in the first 5 months have increased by almost more than 20% and that's a record production. I'm sure this trend is going to be continued.

Invariably in the month of July, August, the coal production goes down. This year, there was increase in production with respect to last year.

From mid of October, the demand also will slightly go down and after rainy season, coal production starts improving. That is the trend for all years and I'm sure you will see dip in the price also and that will offer optimization opportunity to distribution companies and the volume should also start improving thereafter.

**Mohit Kumar:** First question is on the fact that we have a direct market and UI market which is still substantial you know. Do you think this direct market will go down with the exchanges and also the direct market have a high number you know you see 20 BU UI market is 25 BU. Do you think the regulators will ensure that these direct markets happen through Exchanges or some you know, transparent price discovery certainly on the UI market, which is a spike or you know, RTM market which is doing quite well but still this 20 BU is still very high number which is...

**Rohit Bajaj:** Direct market is a part of bilateral. In fact within bilateral we have 2 different component. One is direct market which is one place where both side distribution companies are participating. They are selling, they are buying, and they are exchanging also. This could be banking also and

this could be Real bilateral transaction also where commercial consideration is involved.

We have seen a lot of correction in the past, in fact, if you remember, 2 - 3 years back, bilateral was the major component within the short-term market. Exchanges were doing only 34% of the short term and bilateral put together used to do more than 50% of the transaction. We have seen a lot of correction there. It has gone down because of the requirement of the distribution companies are changing.

Sometime back many of these distribution company they had perpetual deficit throughout the year they used to have deficit and then they were dependent on different distribution company or bilateral contract for longer duration to do that procurement. Now as some capacity has come, they have some seasonal deficit or round the clock or daytime deficit TOD type of deficit which is there.

Now they are preferring exchange platform because this is one platform which provides flexibility. When do you want to buy for those few hours, or a few blocks, you can do that. So this is one reason why we have seen correction.

But as explained by Mr Goel, seasonal demand is going to be there for sure in times to come. Agriculture demand which is there in case of Punjab or some other state in the times to come. So this market will not go away for sure and will stay. But will not increase at the rate at which exchanges are increasing, and this is going to stay for some more time.

And precisely for this reason, our play is there, and the LDC that we have launched is going to address this potential also. So direct transaction will also start to happen at our platform. In fact some of these transactions have happened where Discom is buying and discom is seller and they are doing transaction on monthly, weekly and all those basis.

**Mohit Kumar:** Small clarification. Isn't the barter going to be looked down upon by the regulator going forward?

**Rohit Bajaj:** Generally, what you are saying is right. Barter is required when there is no proper mechanism or market in place. Today we have a robust market in place. Barter has no place because when you are doing bilateral barter transaction and then you are comparing it with the reference price, you will always find somebody gaining, somebody losing, right?

Generally you will find winter prices are always on the lower side and summer are always on the higher side. So Himachal Pradesh, who is buying during winter, they're loser in a way because when they are supplying prices are more. This is precisely the reason why it has gone

down and the point I was explaining it has gone down drastically in past many years. But still some of these transactions are continuing and one of the reason it is continuing is the financial position. Many of these distribution company, they are dependent on barter because they find it a little difficult to buy because that involves immediate cash.

Here in this case you are taking energy and returning it back. The point that you mentioned is very right. Ideally it should not be there but because of so much inefficiencies in the system, because of the problem that we have with distribution company, it is continued.

**Mohit Kumar:** Still on this UI market, do you think is this is sizable?

**Rohit Bajaj:** In UI market we are seeing major change. In fact, I shared with you, last 5 years we have seen growth of only 1.8% CAGR and couple of these years, we have seen negative numbers also and one more major change is going to happen in fact, as per the new DSM regulation now we are de linking overdrawal price with the frequency, earlier there was a linkage.

When the frequency is down and you are a generator, if you are over injecting, you were incentivized. Now going forward, whether the frequency is up or down, you ideally should be following your schedule. You don't have to support the grid, you do your work and be happy with that.

Going forward they are going to increase penalties, the regulation is already out. Only the date is to be notified when this will get implemented. As per the new regulation, the blockwise price will be applicable for the calculation of DSM penalty. Today it is on the basis of average Day ahead price that day.

Going forward it would be let's say in the evening at 7:00 PM if you are overdrawing but the price of exchange, which is between 7:00 – 7:15 PM will be applicable, which is probably Rs. 10 - 12. On top of that there would be penalty of 140% and 1.2 – 1.4 times. So it is going to be even more stringent and we expect that there would be a lot more reduction going forward will happen on the DSM side.

**Mohit Kumar:** On the Open Access, you know the numbers have dwindled down since we listed. It used to be 60% of the entire volume, right? That has been disappointment for us. Do you think this market will come back in the future? Are we seeing the signs of encouragement? What makes you slightly more bullish and is the green Open Access going to open some opportunity for us, given that the threshold is going to be bowed down and despite the NOAR being implemented, we don't see the volume going up.

**Rohit Bajaj:** On the open access side, this is not the first time we are seeing this sort of a drop. In the past also we have seen wherever there has been a sudden increase in the price. This time it is little longer. We have seen there are many months where we have seen so much price increase. There has been many instances in the past where for a month price was very high and similar correction we have seen in the Open Access volume. Open Access participants, they have a natural hedge available with them. whenever there is increase in price, they will always go back to that distribution company and start to draw power.

Whenever there is this opportunity in the market, they will come in the market, participate and then make some saving in that. So that way it is purely dependent on the market prices. There is one more thing which plays very important role, is the state regulation. In last couple of years or in fact little over one year we have not seen any negative regulation. In between we have seen couple of negative regulations for the market where there was increase in additional surcharge, the breakeven of one state has gone down. But in last one or one and a half year, the drop that has happened, it is purely on account of prices and as the price will reverse, we expect their participation will increase.

All of them are registered with us. They are placing their bid also. If you are seeing our daily demand supply pattern, you will find there is so much buy and clearance is so less. Some part of that buy is coming from Open Access consumer. Every day they are placing bid for 50 – 60 MU but only 5 – 10 MU is getting cleared and only been those where the prices are very low. As the price will go down all this will start to increase.

**Mohit Kumar:** Are we seeing these states following this plus minus 20% of the average price as cross subsidy surcharge across the country?

The band where they know cross subsidy surcharge has to fluctuate plus minus 20% of the average price. Is that being followed across the country, or do you think there is some exception?

**Rohit Bajaj:** Now except for 1 - 2 states like Calcutta, apart from that, across the country, it is now within the band of 20%. There were many states where it was much more. They have reduced it to that level.

**Sumit Kishore:** Sir, you mentioned in your opening remarks that developed markets like UK are planning to add 30 GW and large capacities in the market-based model. In the Indian context where discoms are in weak health running 22% AT&C losses and RE utilities have a 6 - 7 month plus receivables from DISCOMs. How would renewable projects, 25 year PPAs where they are only tied up, how would they achieve financial closure under a



market based model? And so how will the market basically except renewable projects in the market-based mode?

**Satyanarayan Goel:** My first question is, do we make highways based on the PPAs, do we make airports based on the PPAs? do we make steel plants and cement plants based on the PPAs? No, then why are we talking about PPAs in the power sector?

See it mainly started because coal allocation was a big issue for the coal-based power plants. If you have a PPA then you will get coal. In the case of renewables, there are no fuel issues. The lender will have to take a call based on the fixed cost, which is going to be incurred, is it going to be market, I mean can it be served through the market or not? Now if the price for renewable has come down to Rs. 2.50 or Rs. 2.60, which is the price discovered for the bidding route which is in fact lower than this and the exchange clearing price, the marginal cost of the coal-based power plants is more than that. So, they should have the comfort that yes, they will be able to get a better price through the market than the PPA route and then no issues about the signing of the PPAs or curtailment of the schedules or payment defaults, which is 6 - 8 months, what you said.

On the exchange platform, you get paid on daily basis, so in fact, financing agencies should get additional comfort from this. But the only thing is because of the coal-based power plants, many of the lenders have burned their fingers, so they are very cautious, but I'm sure a couple of IPPs who are setting up capacities based on the market model, when they see their earnings and kind of revenue realization they are doing many more, IPPs will follow and banks also will get comfort out of that.

We are also interacting with a couple of lenders. We are interacting with SECI also and they are in touch with a couple of lenders to provide that kind of comfort to the IPP, so that the financial project happens. In any case, what we are talking now is instead of 100% market-based capacity maybe IPPs can start working with the 20-25% capacity through the market-based models and 70%-75% through the PPAs, so that lenders have comfort because lending is done for almost about 70% of the total capital cost. I mean all these kinds of options are being discussed. Let's see. I'm sure if country is intending to add 500 GW of their renewable capacity, that cannot be done through the PPA route. The Government also will have to find out new ways and means of capacity addition.

**Sumit Kishore:** Second question, Rohit showed us a slide where you compared one day of August last year and this year. So, the incidence of your high tariffs during the morning hours and late evening isn't it likely to be more

recurring phenomena because coal-based capacities are not getting added, the bulk of renewable capacity additions is through the solar route, so you will have the time when the sun is not shining and you will have these peaks where the tariffs will surge and which could possibly see the incidence of a shift away from the day-ahead market to term ahead market, which has happened temporarily during this phase because the tariffs have been hitting Rs. 20 in the late evening hours.

So do you think that simply the composition of power capacity addition the country is going ahead with in the evening hours.

**Satyanarayan Goel:** In evening hours, the prices are Rs. 12 even now, mainly because, many of the generators are not able to participate in the evening hours because of the coal shortage. If you look at the PLF of many of these IPPs like Jindal, who has got almost about 3500 MW of capacity, DB Power etc, the operating PLF for this year also, when the clearing price is plus Rs. 7, it is still only about 50% because they don't have coal. If they have coal, they would definitely like to sell power in the evening peak hours when the rate is Rs. 12 and I'm sure when the coal availability improves, this rate will come down.

See, if a distribution company is not able to get power in the evening peak hours, the most crucial hours, so to meet that demand many times they have to run their own units, which are costly units, and they have to keep these units running even during the daytime also at the technical minimum. So their purchase during the daytime also when the rate is lower that also goes down. So, evening peak hours has a cascading effect. And I am very sure that after the 15th of October you will see evening rates coming down and liquidity improving in evening hours.

Government of India has already started looking at coal-based capacities, because they are aware that only renewable will not be able to meet the demand, so we may have to supplement this with the other conventional power also.

**Sumit Kishore:** Just one clarification on the time frame over which the GNA will get implemented because that seems to be an important factor to resolve the abnormality around transmission charges.

**Satyanarayan Goel:** Yeah, GNA was notified in the month of June and the only thing is they have to notify the grid code and transmission charge sharing regulation. I believe the way things are happening, this would get notified then maybe another 2 – 3 months' time and then after this should be implemented maybe in this calendar year only.

**Sumit Kishore:** Just one final question. You know the overall potential that you see with Nepal, Bhutan, and Bangladesh, all coming into the frame of cross

border. We just started scraping the surface there. But in billion-unit terms. Can you please tell me, 3 years down the line, what could be the potential in CBET?

**Satyanarayan Goel:** So, the potential in these countries is dependent on the transmission capacity which is there with these countries, and a good part of the transmission capacity is tied up through long-term contracts. I feel that this year we should be able to do almost about 2 billion units of transactions through the cross border and because Bangladesh as of now has not joined. Maybe if they join in the next one or 2 months we should be able to do 2 BU this year.

See when these countries start seeing merit in exchange transactions, I am sure they will go ahead with augmenting the transmission capacity with India and the volume in this market should increase. Very difficult to say about that. It all depends on the initiatives taken by the neighbouring countries.

If you look at the European market, there also the integration of the market with the different countries started and then then slowly volume started increasing and today you look at the market size. So here also I am very sure that, it may take another 3-4 years' time to have significant volume from Cross border trade.

**Sumit Kishore:** Thank you so much. My final question to Vineet is that in your presentation you mentioned that EBITDA margins have improved like 300 basis points in FY22, and almost 100 basis points in the first quarter. Now if I project 3-4 years forward, because volumes are going to grow inevitably as the Exchange volumes will grow as IEX maintains its market share. Because your CapEx requirements are not as high, so theoretically can your margins go towards 94%-95%? what is holding back the operating leverage, what is operating leverage?

**Vineet Harlalka:** Exchanges have the operating leverage because when we started it was around 70%, then 72% and then moved to 87% and if you maintain the same fee and same structure then the volume will definitely increase with a greater margin. but looking at the overall market structure, we also have to seek how their structures are going to form. I think 87% leverage, what we are working now is quite a decent one.

Definitely we have to work upon to create some more value, do some work for the sector and try to see what is the best value proposition we can create so that people accept us more. If we look, it sounds very good to listen to 90% EBITDA but should be practical also, it is very hard to say how it will be done, but we are looking at it and we are concerned and mindful of those numbers also and we keep on evaluating the situation as the volume moves.

**Devesh:** There was draft regulation which talked about you having a different tariff structure for different products.

Also building up on the same question, some of the competitors have been giving some discount on the exchange tariff. Do you think there can be a case where we can have a separate tariff for separate products, probably to compete in TAM, we can give some discounts on the tariff, can that be the strategy for us?

**Satyanarayan Goel:** As of now, we are not considering that. Maybe in the long duration contracts, where we are doing significant volume in one contract. We may think about that, but as far as the DAM, RTM and the short-duration contracts are concerned, we intend to continue to charge what we are charging. And of course, this is subject to regulatory approval.

**Devesh:** And any clarity on that tariff for clarification?

**Satyanarayan Goel:** See, as per the regulations they have mentioned that exchanges can charge up to 2 paisa, we have to now take the approval of the regulator product-wise for which we have filed the petition. We are yet to have the order from the regulator. But our petition is well within the power market regulations.

**Anirudh:** How was the performance of Long Duration Contracts in last 2 months?

**Satyanarayan Goel:** Long Duration Contracts, as we mentioned, the market size is about 50-60 BUs based on the transactions which happened last year and that is the addressable market. In the last 2 months, transactions in this market have not been significant because of the high clearing price. Since generators are not sure about the whole availability, they are not willing to take any call for the future day coal availability, they are not talking any call. So the price which were discovered in the reverse auctions for their monthly contracts was on the higher side and that is why distribution companies have not placed order for the purchase of power under those contracts. A couple of contracts have happened. I mean one contract between Andhra Pradesh and Karnataka, Shri Cement. So there are a couple of small volume contracts also happened. But I'm sure from October when the prices start coming down transactions in the long-duration contracts also will happen.

**Anirudh:** We talk about gross bidding and when do you see it coming?

**Satyanarayan Goel:** Let me make it clear that gross bidding is a new concept. So, CERC and Government of India were talking about the MBED and we found that there was resistance from many of the states and that is the time when we started looking at other exchanges world over as what kind of concepts are they opting. We found that a couple of Exchanges world over are adopting this gross bidding concept.

The Gross bidding concept is basically a voluntary MBED kind of a concept where the distribution company can take a call on how much of capacity at their disposal they want to self-schedule and how much of capacity they want to schedule through the market on the sell side and buy also. These concepts are there, and we found that maybe this can act as a voluntary MBED.

We saw, there was a lot of resistance from the states, and as this is a voluntary concept, states should agree to this. We started interacting with the states also and found that yes, there is merit in this concept, but then you know adoption of this needs time, particularly we are also waiting for the regulatory approval.

We filed application with the regulator for approval of this contract. That has not happened yet. They have heard our petition order is reserved, so as and when the regulatory approval is there, then we will work with the states. It is difficult to commit when the transactions will happen under this.

We have in fact appointed one consultant also to interact with one of the states who is very active and do a case study for them that if you do transactions through the gross bidding mechanism, how much of cost saving you can do. Make a detailed analysis for them, present it to them and then help them in bidding also. And if that is successful, then maybe we can replicate that with other states. I think this is a slow process and gradually it will happen.

**Swarnim:** To attain that critical mass we need to have gas under GST as well. When do you expect this to happen?

**Rajesh Mediratta:** Yeah, what you said is one of the important enabler for the market overall, GST that will help to boost the short-term market itself.

But it's not a dampener like, it's not like, showstopper. So, we still can achieve critical mass without having GST in place because even the tariff part is to be done, Access Regulation is to be done. But since there is a substantial part of gas market like 21 MMCMD in spot, we have a lot of room to play. So we are today only 1 MMCMD and we can definitely grow in these constraints also. The way we ramped up our volume last year, that gives us confidence that we can grow even within these constraints. Of course, once these enablers will be in place, that will help us ramp up better.

**Swarnim:** On the IGX stake sale which needs to be done in next 2 – 3 years to reduce it to 25%. Is there any near term price discovery that can happen?

**Satyanarayan Goel:** I think this is IEX investment, so I'll prefer to answer your question. IEX started IGX with the intent of creating an institution in the sector and we have sold 52% of the equity to the market participants who are the key stakeholders in the sector because we wanted their support to create this institution. And as per the regulatory provisions, we will have to bring it down to 25% within 5 years of the license, which was issued on December 2020, so by December 2025 we will have to bring it down to 25% and I'm sure, that we should be able to do by that time and if the market conditions are not conducive, maybe we may have to apply to a regulator for giving us an extension. We will see at that time.

**Swarnim:** On RE capacities, whatever volume we have been witnessing in green market so far we are broadly dependent on the SMEs. Till the time we do not have any merchant capacities, what, according to you, is the potential for us on the green side? And you mentioned about the model you are starting. In the next 2 – 3 years, where do you see these green markets?

**Satyanarayan Goel:** So the green Market Volume will depend based on the market-based capacity addition in the renewable sector. I think we will have to wait for that to happen. It is something like, you know when we started in 2008 power exchange for the conventional power, our volumes initially were very low, in fact every day looking at a couple of megawatt hours and today we are doing 300 MU every day.

I think same thing in the green market. We started these products, we are creating market enablers, we are doing policy advocacy and the government is also keen to develop this market. So, there is an aggregator in place now. Market will have to respond to these things and I'm sure in the next 2 to 3 years there will be increased liquidity in this market and Green market, I believe in the next 5-6 years should be as big as the conventional market. Because I'm sure in the next 5-6 years even the storage will be commercially viable, so green with storage that will be an excellent combination for the market.

Most of the corporates are under the ESG policy and want to go green, they want to buy clean power and definitely, through open access the Government also wants to promote green open access. The green Open Access regulations are more favorable. So that will promote Open Access also.

**Speaker 3:** Government has notified the late payment surcharge rules and the PSUs or central government generating station was supposed to start trading on the exchanges if they don't get their schedule by 10:00 AM. What is the status of that? Is there some guidelines or regulation or some notification pending from the POSOCO?

**Satyanarayan Goel:** As far as government is concerned, they have already issued these rules and these rules are implemented. So as in if the payment is not made by any distribution company, that distribution company is barred from participating in the exchange platform and also their bilateral transactions are not scheduled.

**Speaker 3:** My question was are the generating station scheduling power on the exchanges that are not getting scheduled by 10:00 AM?

**Rohit Bajaj:** This is also very clear in that if you are not being paid then you don't have to obtain consent from distribution company. You can directly go and participate at exchange platform.

We have seen certain instances where some other RE generators they started to participate, but in most other cases where there are big defaults in case of big IPPs, normally what happens in the morning they bar them and in 1 - 2 hours The thing is settled between both the parties. They continue to supply and the restriction which is imposed on distribution company, those restrictions are also removed and their participation on the exchange also starts. Till now what you are saying, we have not seen. We have seen this in case of few renewable generating stations who are not being paid and they decided to participate at exchange platform.

**Satyanarayan Goel:** But one thing is definite that payment position to the IPPs has definitely improved. Because of this so that is one good part of this. The late payment surcharge scheme is that earlier distribution companies were buying power under the bilateral transactions because they knew as far as payment is concerned, there is no compulsion for that. They can defer the payment for 2 - 6 months. But now since they will have to make payment in time. They may not prefer to buy power under the bilateral, may opt for the exchange option because on the exchange platform you can buy what you want and in whatever quantum you want and whenever you want. You don't have to contract a fixed quantum for 3 - 4 months.

Whereas your demand may not be there in future. So I think this is a positive step for us. I am sure this will support exchange transactions in future.

**Speaker 3:** Do you think opening of the new market, high price, DAM market beyond Rs. 12 will add a significant amount to the volume.

**Satyanarayan Goel:** I don't think so, because appetite for distribution companies to buy high cost power may be very less, maybe only in the evening peak hours, maybe there may be some requirement, we will have to see that. Government is thinking about this market. We have no issue in

implementing this product, but once we implement it then we will see about appetite of distribution companies.

**Rohit Bajaj:** This is going to be an extension of present integrated market that we have. There would be 3 different price formations. This is what they have proposed. We welcome this idea. Today we have a price cap of Rs. 12.

There could be possibly some power, some fuel type where the generation costs are more. And if that has to dispatch, we should have a marketplace that at least should be available. Whether it will happen or not happen time will tell, but it is definitely a positive thing.

**Anshuman:** As you mentioned there is a change in stance of Government towards energy security now and many CPSUs or SPSUs are tying up capacity in long-term PPAs. What will be the impact on the growth of short-term market?

**Satyanarayan Goel:** I think what is required is addition of capacity. As long as there is capacity addition happening in the country, it will help the development of market because what we are seeing even in case of long-term PPAs distribution companies do not have uniform demand throughout the day and throughout the year. So distribution companies are also big sellers on the exchange platform.

In fact more than 50% of the sell is coming from distribution companies. So if there is additional generation capacity coming in the market even through PPA, maybe a good part of that will come to the market also.

**Anshuman:** What is the update on derivatives and when will this be launched?

**Satyanarayan Goel:** Let me tell you one thing that there are many derivatives for different commodities in the commodity market, but electricity is one area where we have spot market also.

In other commodities, there is no spot market. So regulator is very cautious in going ahead with the derivatives of electricity because they want to see that these do not have any adverse impact on the spot market. They are studying the contract proposals which have been submitted by the commodity exchanges and what we understand that shortly some of their products are going to be approved and these derivatives will be launched. These will be launched by the commodity exchanges because this will be regulated by SEBI and we are regulated by CERC. These derivatives will provide liquidity in the market. They should also provide some reduced volatility in the price and also hedging options to the buyers. Only when these products are introduced we will see how this opportunity is developing in the market and what kind of benefit we as a spot exchange are able to take out of it?



- Anshuman:** How will price discovery happen?
- Satyanarayan Goel:** No, in the derivative market, like any other commodity you have today, I mean on the MCX platform, coal derivatives and gas derivatives, similarly you will have electricity derivatives.
- Vineet Harlalka:** Price will depend on spot prices.
- Satyanarayan Goel:** As I told you. This will be launched by the commodity exchanges, not by us.
- Anshuman:** What is the revenue model for us?
- Satyanarayan Goel:** MCX will be using our price for the purpose of settlement and since they will be using our price we have agreement with them and there is some revenue sharing with us.
- Rohit Bajaj:** But the larger game that we are expecting is from the hedgers. Today there are people who are not taking position in the market. They are not fully dependent on the spot market because they want some sort of future certainty.
- So this particular market will provide them that certainty they can hedge their position and then be dependent totally on the spot market going forward on both buy as well as sell side and we expect this will increase liquidity in the spot market.
- Speaker 4:** So derivatives generally are multifold of the spot market. I mean we have seen in other commodity or equity or currency and all that. So when we plan to start this derivatives by MCX, what is the timeline and what is the exact revenue share model with MCX?
- Satyanarayan Goel:** See, these derivatives will be started by commodity exchanges. After the joint working group clears the product. We understand that approval is expected very shortly, maybe in a month or 2 months time. So you may start seeing electricity derivatives on the MCX or NSE platforms also. And as far as revenue sharing is concerned, let the derivative market starts operating, then we will come to know about what kind of sharing it is.
- Speaker 4:** What are our charges for the gas exchange? How much per MMBtu we charge?
- Satyanarayan Goel:** We charge Rs. 4 from the buyer and Rs. 4 from the seller per MMBtu of gas.
- Speaker 4:** Is there any cap or floor price?
- Satyanarayan Goel:** No, this is a fixed price. Invariably regulators do not seek to interfere with their transaction fees.
- Rajesh Mediratta:** Regulator has no cap on the transaction fee

**Speaker 4:** So now this ₹4 will remain irrespective of the gas price, right?

**Satyanarayan Goel:** Yes. See in case of electricity also our transaction fees is based on the volume, not on the price of electricity. When the clearing price was Rs. 3 we were charging 2 paise. When the price is Rs. 12 then also we charge 2 paise only. Similarly in case of Gas exchange also it is based on the volume.

**Aparna Garg:** Thank you everyone. Please note that the presentation and the audio recording will be available as well. It will be available on the website before 9:00 AM tomorrow.

Thank you. Thank you everyone for joining us.