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The Manager The Manager

BSE Limited National Stock Exchange of India Ltd

Corporate Relationship Department Listing Department

Phiroze Jeejeebhoy Towers Exchange Plaza, 5th Floor, Plot no. C/1

Dalal Street G Block, Bandra Kurla Complex Mumbai- 400001 Bandra (E), Mumbai- 400 051

Scrip Code: 540750 Symbol: IEX

Sub: Transcript of the IEX Analyst Meet with analysts and investors held on July 26, 2024.

Dear Sir/Madam,

Pursuant to Regulation 30 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, please find the attached transcript of the IEX Analyst Meet 2024 held with analysts and investors on July 26, 2024.

The above information will also be made available on the website of the Company: 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

# **IEX Analyst Meet 2024**

Aparna Garg: Good Evening Everyone and Welcome to the Analyst Meet of the Indian Energy Exchange. I am Aparna Garg and I would be anchoring the event today. With us from the IEX Management, we have Mr. S N Goel Chairman and MD of IEX; Mr. Rohit Bajaj - Executive Director Business Development, Strategy, Regulatory Affairs and IT; Mr Vineet Harlalka - Chief Financial Officer & Company Secretary; and Mr. Amit Kumar, Executive Director Market Operations, New Product Initiatives and Exchange Technology. We also have with us Mr. Deepak Mehta, who is the Chief Business Officer from Indian Gas Exchange. And we have Mr. Aditya Wali, who is the Investor Relations Officer at IEX. We will be beginning with the opening remarks from Mr. Goel, followed by a detailed presentation by each of the leaders. And without wasting much time I now request Mr. SN Goel to please share his opening remarks.

**SN Goel:** Good Evening Friends.

I welcome you all to the IEX Analyst Meet.

It feels good to meet you all in person.

Today, I along with the management team of IEX will brief you about the business performance of IEX, Strategy, Outlook as well as address all your questions.

Friends2024, is a year of elections across major democracies in the world. Recently, India also concluded its general election. We now have a new government led for the third straight term by our honourable Prime Minister Shri Narendra Modiji. And most importantly, the formation of the government has signalled continuity of the reform agenda, which is development led growth of India. The Indian economy continues to be the world's fastest growing major economy with growth of almost 8.2% in FY24 as against 7% in FY2023.

The economy is expected to remain on this path driven by public and private investment and rising consumption. The Reserve Bank of India has raised real GDP growth forecast for FY25 to 7.2% from 7% earlier.

On the power sector front, the surge in economic activities, elections and hot weather conditions led to an unprecedented increase in the electricity demand during the first quarter. The first quarter demand growth was almost about 11%. And peak demand was about 250 gigawatt. Earlier high was 243 in the month of September last year, but this year it was 250 gigawatt, and total power demand was 452 billion units in first quarter. In fact, in the first quarter, the demand increased by 11.2%. Same trend is continuing in the month of July also.

To meet this growing demand significant work is being done by the Ministry of Power. Capacity addition in the field of thermal, almost about 28 Giga watt capacity is under construction, out of which it is expected that 15 Gigawatt will get commissioned in this year, and balance 13 Gigawatt in the next two years. In addition to this government is also planning to add almost about 50 gigawatts of thermal capacity, which should come in the next six, seven years. In addition, there's a lot of work happening in the renewable area. Target is to

have 500 gigawatts of renewable capacity by 2030. And to meet that, government is planning to add almost about 50 gigawatts of renewable capacity every year till 2030. And looking at the price which is being discovered in the renewables space, these prices are very, very competitive. Very recently in a wind tender, prices were about three rupees 50 paisa, solar prices are down to Rs 2.50. I think with these prices, capacity addition is going to happen at a much faster rate.

Over the past quarter, major developments have taken place in the energy storage system also. I mean, this is a very good development because what we are seeing on the exchange platform is that during the daytime we have lot of sell available because solar power is available, but in the morning and evening hours, there is a shortage of power. And we are seeing almost about 10 rupees kind of price discovery during this time. Storage systems are quite expensive. Pump storage takes a lot of time and the cost involved is quite high. Battery storage about a year back, the rate was almost about 10 lakhs rupees per megawatt per month. About three months back in a tender which was issued by GUVNL (Gujarat Urja Limited) the rates have come down to almost under about 3.7 lakhs per megawatt per month. I mean, if you convert them into per unit rate, the rate earlier used to be more than 10 rupees per unit and now, it has come down to around five rupees. About a fortnight back SECI also had invited a tender for 1,200 megawatt of solar power and 1,200-megawatt hour of battery and there the rate was about two rupees seventy paise per unit. So, all this translates into storage cost of almost about five rupees. This means that, you can store the two and half rupees power during the daytime and use in the evening hours or morning hours at a rate of seven and a half rupees. I think commercially it makes a lot of sense. And this option is in fact much cheaper than adding thermal capacity. And this kind of capacity additions can be done at a much faster rate also.

Government is in fact striving that these capacity additions should happen on the market model. The Government came out with a scheme for 4,000-megawatt hour of battery storage system (BESS) with viability gap funding (VGF). First tender was issued wherein they said that the power will be sold from this battery storage system through the exchange. Similarly, MNRE has come out with a concept note now, and they say that we must add almost about 10-gigawatt hour of storage system for sale to the market because through the market, you're going to get good arbitrage. So, a lot of work is happening. And looking at the competitive rate in the battery storage system, I'm sure this can be a good case for market development in the sector.

On the fuel side also, Coal India has done good work. And this time in the first four months, there is absolutely no fuel shortage. Coal is available through the E-auction route at a very nominal premium, which is almost about 20% with respect to the administered price. And coal stock today is for about 18 days, which is an all-time high in the month of May, June, July. Imported coal prices also are very, very competitive now. And same is the trend with gas prices. In fact, this year, gas generation was probably highest in the last 10 years. Gas prices came down to almost about 10 to \$12 and 12,000 megawatts of gas-based capacity was running in the month of April, May, June.

And with a good forecast of monsoon this year, I'm sure we are going to have good hydrogen generation. So, all these measures should lead to good liquidity on the exchange platform. We have been getting a volume growth of almost about 21% in the first quarter. And in the month of July our volume growth has so far been almost about 36%. So, I'm sure with this liquidity, the growth trend will continue in future also.

Let us talk about few important regulatory updates and policy initiatives.

- Ministry of Power to meet this high demand in particular in the month of April, May June, directed all gas-based power plants to run under Section 11. And as a result of that, almost about 12,000-megawatt capacity was operating. All thermal generating stations were made available, and their plant maintenance was deferred to the low demand period. So, as a result of that, there was a very high availability of thermal generating stations during this period. Imported coal-based power plants, again under Section 11, they have been directed to operate up to October 2024. And so, that is why most of the imported coal-based power plants are now available to meet the demand in the country. They have also directed that even domestic coal-based power plants must blend with the imported coal with 4%, so that availability of coal is not challenging in future also.
- There was another policy initiative which was taken, which is amendment of the Late Payment Surcharge (LPSC) rules. And under the LPSC rules, now government has directed that all generating stations which have long term PPAs will have to sell unrequisitioned power, the power which has not been requisitioned by the beneficiaries, they have to offer that power on the exchange platform. This is a very very important provision and as a result of that, now, we find that Central generating companies like NTPC, DVC, NEEPCO, they have started offering that power on the exchange platform. Every day, we are getting almost about 70-80 MUs on the exchange platform out of which 15-20 MUs is getting cleared also. So, that has a very good impact on exchange volume. This is the first step where the Central generating companies have started bidding it. Second step is even the IPPs - the IPPs who have PPAs with multi-states, they also have to offer the URS power. And for that one of the issues was that IPPs were saying that under the fuel supply agreement (FSA), the coal is to be used only for supply of power under the PPA. Even to that effect a clarification has been issued that if the power is offered on the exchange platform and it is cleared there, the coal under Long Term linkage can be used for this purpose. So, what I'm trying to say is that the Ministry is trying to resolve all these issues to ensure that power does not remain unutilised and there is high liquidity on the exchange platform. The third step is the Interstate Generating Stations - the generating stations which are within the States. Even if they also have un-requisitioned power, that power also should be offered on the exchange platform. For that, there are few issues regarding Central Regulations and Intra-State regulations. Again, work is happening on that also to get aligned. So, my point is that these policy initiatives can make a lot of difference. This has already brought in a lot of liquidity on to the exchange platform.

• In addition to this during FY24, there were many other regulatory initiatives. And some of the few important initiatives were the implementation of the Grid Code, implementation of GNA, and the revised Transmission Charge Sharing Regulation, as a result of which anomaly which was there between the collective transactions and bilateral transactions, that anomaly has been removed. And the effect of that has been that volumes which were getting shifted to the DAC market are now reduced significantly and DAM and RTM volumes have increased.

During quarter one of FY25, our performance has been very good. We recorded a total trading volume of 30.4 billion units with a growth of 20.8% on year-on-year basis. Revenue for the company grew by 21% on year-on-year basis increasing from 127 crores to 154 crores. PAT has increased by 27% rising from 75.8 crores in quarter one of FY24 to 96.4 crores in quarter one of FY25.

While IEX business and financial performance will be further detailed by Mr Rohit Bajaj and Mr. Vinit Harlalka, I must say that performance of IEX continues to be very robust both for electricity and certificates. The robust performance in quarter one FY25 was led by high power demand and substantial sell availability. And this trend in the month of July, as I told you, is again continuing. In terms of new products, we are currently awaiting approval from CERC for our long duration contracts. We have already filed a petition with them for approval of 11-month contract and hearing has happened and order is reserved. In this market – 11-month contract segment - almost about 40 billion units kind of transactions are happening in the bilateral market. So that is the opportunity size. So, once that contract is approved, we should get good volume on the exchange platform from under this contract. Further, since lot of renewable capacity addition is happening and based on the feedback received from these (RE) generators, because renewable generation has large variability, they wanted a green RTM market. So, we have filed a petition with CERC for approval of green RTM market also. That will be the next new product.

Friends, as you are aware, IEX also incorporated Indian Gas Exchange in 2020. And IGX is doing good business from the last three and half years. It has been making profit. And Government of India has a vision to increase gas consumption from 6% of energy basket to 15% of energy basket. Gas consumption is increasing, lot of infrastructure is being added. Present capacity of LNG terminals is 45MT which is getting enhanced to 75MT. In the next two, three years, pipeline network is being added. And gas prices fortunately, have moderated now. So I'm sure with all that, IGX will have good business opportunity. And, as I've always said, that looking at the opportunity in the gas market, IGX should be as big as IEX today. In the next five years IGX should reach that level. And we have Mr. Deepak Mehta, who is Chief Business Officer of IGX. He will be making a brief presentation about the IGX performance.

Friends, as envisaged by our Honorable Prime Minister India aims to achieve energy independence by the year 2047. As India marches towards Net Zero by 2070, Power Exchanges will have a significant role to play in the country's energy landscape. With India's GDP projected to grow at 7 to 8% for a couple of years, power demand is also expected to grow at a rate of 7 to 8% at least up to 2030. And that should provide good opportunity for the exchanges to grow business. India's power sector continues to experience a fast-paced

transition. The government's focus on green hydrogen, green energy banking solutions, such as pump storage hydrogen, battery storage, will lead to new innovations and new product developments on the market. We are exploring various models for market-based capacity additions, which will be detailed by Mr. Bajaj in his presentation.

To further create a good market at the exchange, we have advocated about green capacity addition, renewable capacity additions through innovative solutions like CFD, which the government is already considering; Virtual PPAs and also what we are seeing now; Government has taken initiative of doing rooftop solar capacity addition and this model will transition from subsidy-based mechanism to a market-based mechanism. And in the market-based mechanism what we find is that local trading of electricity is also possible, which is a P2P (Peer to Peer Trading) model and we along with ISGF and Power Ledger, are working on this model to experiment whether these kind of things can be done in India.

Through our wholly owned subsidiary International Carbon Exchange, we also wanted to get into the carbon market. But when we wanted to really launch it, we found that India is a net seller of carbon credits and buyers are there in the European market. So, it is basically a dollar rupee transaction and doing these kinds of transactions on the exchange platform is slightly difficult. There are again GST issues in that. So, we are now exploring options in the Gift City. We have had discussions with them. They're also quite supportive of this. But unfortunately, carbon credit is not a tradable commodity in the Gift City list. So they have taken up the matter with Ministry of Finance. And as and when they get that approval, we will launch this Carbon Exchange from the Gift City. Another opportunity which we are seeing is in the Coal Exchange area. I'm sure you must have read in the newspaper also, that Ministry of Coal is actively working on approval of Coal Exchange. Work was going on from the last two-three years. They had appointed CRISIL as the consultant for suggesting a model for setting of coal exchange in the country. And based on the studies, Ministry of Coal has decided that yes, it is time to set up a Coal Exchange, because it is not only Coal India, singularly which is going to produce the coal, we are also going to have commercial mines in the country and also all these captive producers are also allowed to sell coal in the market. So, they want a platform where the transparent price discovery happens. And all these coal producers have opportunity to sell the coal. We are working actively with the Ministry of Coal. One challenge which they are facing is basically for exchanges, you need a regulator, but in the coal sector there is no regulator. They are trying to find out some option and some way out to have a regulatory mechanism for regulating the coal exchange. So that is going to be another opportunity for us.

Technology is our strong area. And in the last two three years we have introduced many products in the market. We have also done a lot many customer centric initiatives which have ensured customer loyalty, and as a result of that, we have been able to maintain good market share.

Friends it is exciting to see that power sector is undergoing rapid visible shift. We are witnessing many regulatory and government initiatives aimed at deepening the power market. Particularly, because, if you want to have high renewable capacity addition in the sector, deepening of power market is necessary, because markets provide most efficient

integration. Mr Rohit Bajaj will tell you the international experience how exchange volumes have increased with high penetration of renewables in the sector. And with this, I will now like to invite Mr Rohit Bajaj for making a detailed presentation on the business development at IEX.

#### Rohit Bajaj:

Thank you. Thank You Goel Sir, for a comprehensive overview.

Good Evening, Everyone. Moving on to the first presentation, which is about sectoral developments and business update. A lot is happening. Mr. Goel has touched upon many government initiatives that have been taken in the recent past and which is actually deciding the future course of the sector, as well as the power markets.

Energy mix is evolving, it is changing in a big way.

We have very diverse energy resources available with us today. Predominantly it is coal, but you can see that others, solar and wind and other renewables are also getting important day by day. Today, 76% of the generation is being done by coal-based resources, but renewable is growing very fast and nuclear is also one important element where we have seen good growth and in times to come lot many more capacity is going to get commissioned.

Transmission is a segment we have been talking about in the past few years. In last 10 years our Inter Regional Capacity has more than tripled. And this has resulted into virtually no congestion in the country. Next level of development in the transmission sector we are doing, is in the renewable rich states, where we are trying to evacuate renewable power in a most efficient way. We know that there were times when in States like Tamil Nadu and Andhra Pradesh (AP), there were a lot of issues pertaining to evacuation of renewable power. And recently in last three four years with some more State level transmission capacity creation, those issues have subsided.

Distribution is one sector where there are a lot of questions about the financial viability. But there are certain parameters, financial parameters, where we have seen remarkable improvement. Be it collection efficiency, where it has reached up to a level of 97%; billing efficiency where it has reached to the level of 87%; or if we talk about AT&C Losses, it has come down to 15%. Credit rating is improving, where we can refer to PFC 12<sup>th</sup> Integrated Rating Report wherein almost 30 utilities' ratings have improved and then there are only 17 utilities which are at C or below C Level. So, a lot is happening in this particular area. And this is very important because unless the last interface, which is the interface of the customer, which is distribution company, unless there is financial viability there, all things that we are talking about whether it is energy transition or development of the market, nothing will happen. Everything requires payment in time. And this is something that we have achieved in the recent past where after introduction of LPSC rule (Late Payments Surcharge Rule), we have seen that all payments to the generators are made within the given timeframe. And exchange has been playing an instrumental role here. If one of the States is not making payment to the generating station, then they ask us to restrict them from participating in the DAM market or any other segment on the exchange platform. So that way exchanges have

helped in disciplining the sector and the results are there to see as a lot of losses have come down and a lot of efficiency improvement has happened.

The energy mix is going to change in an even greater way going forward. By 2030, our target is to have more than 50% of renewable capacity. We are going to touch 500 gigawatts plus of RE capacity. Thermal capacity would be comparatively much less, though there are announcements that have happened on the thermal side as well. There is 28 gigawatts of capacity under pipeline, government has announced adding another 50 gigawatt of thermal capacity because we know that the kind of demand increase we are witnessing, it is required that we should have base load available so that we can meet that demand in a most efficient way.

Renewables are definitely going to lead the energy transition, there is no doubt about it. There are certain key levers which are very important in this transition. The first one being technology, where we have seen evolution of many newer technologies, where cost of solar is going down, cost of wind is going down and utilization factors are improving, and recently, we have seen the battery energy storage cost going down in a big way. So, all these technological developments are giving us a lot of opportunity. We have seen that a lot of shift from solar generation can be moved to the peak hours because of battery energy storage coming down. And lot of analytics can also be done from the technology side, which can help energy transition in a very efficient way.

Regulatory framework is already there in place. We know that purchase obligation is there for all the utilities and all the individual customers. Whosoever is buying electricity today, he has to mandatorily buy 30% as per the regulation given by the State Government as well as the trajectory given by Ministry of Power - that much quantity one needs to buy in the form of RE. So, RPO regulation is there in place, and Energy Efficiency obligations are also there. We have Green Energy Open Access also available today, where the threshold limit which was one megawatt earlier has been reduced to 100 kilowatt. So, we are expecting that going forward, there would be a lot of action. The C&I space will also be very active where small and medium enterprises will also be participating on the exchange and taking advantage of the arbitrage which is available.

Similarly, Carbon Credit Trading Scheme (CCTS) has also been launched recently and two days back they have issued procedure as well. Customer preference is changing. We are talking about moving cooking from gas to electricity. Similarly, rooftop solar, railway traction, data centres - all these are demand drivers - and we call it the Electrification of Economy. So, going forward all these activities are going to consume power in a big way, and we are going to get a lot of increase in demand because of that.

Here then, comes the role of the market unless we decide or we create new market models, whether in the form of CFDs, whether in the form of VPPAs or arbitrage opportunities for BESS or P2P Trading going forward, these models would be required to meet the kind of transition that we are going to see.

Now, let us quickly see where we are. Today exchanges are contributing a little over 7% in the total consumption of the country. And you can see on the left-hand side of this slide, that this

is one segment which has been growing at the fastest pace. So, we have seen 17% CAGR growth in the last six years. Now, if I compare it with bilateral or let's say DSM, their numbers are very less. This growth is very high as compared to bilateral and DSM which means that there is growing preference (for exchanges) or exchanges today has have emerged as the most preferred option for buy as well as sell of power. So, distribution utilities are using this and 230 BUs is the total market size of the short- term market and almost 55% of 230 BU is done by exchanges alone.

Brief introduction of IEX. Many of you are already aware, it's the first exchange in the country, the leading exchange, the leading electricity marketplace. We started operations in 2008 and are regulated by the CERC. We became a publicly listed company in 2017. We have quality environment and IT ISOs available. We are part of 13 State Advisory Committees. Every State has got one advisory committee which seeks comments from stakeholders, and we are there in 13 States. We also hold the board membership seat in the Association of Power Exchanges. This is one association where all the exchanges in the world, about 45 exchanges are there who are registered, who are members of this, and we hold a board seat there. We did 110 billion units last year and that was the first year where the electricity volume exceeded the 100 BU mark. We did 102 billion units overall electricity trading last year. In Q1 we have done 30.4 billion units where 30 BU is electricity, and 2 billion units is certificates. Both the segment's which is electricity and certificates are showing very good growth rate. In Q1 we have seen 19% growth in electricity and 50% growth in REC. REC growth is high because there is lot of correction in the prices. The floor price which used to be about 1,000 rupee per REC about a year back has been reduced to Rs.128 per REC. So, because of drastic reduction in prices, there is a lot of traction, lot of CNI consumers and utilities are coming to the market to meet their renewable purchase obligation. We have huge participant base. There are close to 8,000 registered participants with us - all the distribution companies, all the IPP captive plants, and there is one new entry, here, you can see CBT entities. They are 20 plus in number. So, CBT which started about two years back, in these two years we have seen a lot of progress. Today there are 15 plus generating stations of Nepal registered with us and on a given day they are selling close to 14-15 million units, a little less than 10% of our day head market (DAM). That much quantum we are getting every day from Nepal and during the winter season when they have high demand and we have surplus power available, they buy from us. So that way, it is a very good combination - they are taking advantage of the market. So is the case with Bhutan, as they are also doing this very actively.

Our product mix is also changing. So, if you remember some time back it was hugely dominated by the day head market (DAM). At one point in time its contribution was more than 85%. Now, this number has come down and we are (49%) at last full year. Full Year makes more sense here because Q1 was the time when we had elections, Q1 was the time when there was crunch period and shortage of power. So, there was a bit of more increase in the TAM segment. So you can see here TAM has drastically increased in Q1 but this (full year) makes more relevance here as DAM is 49%. Even today RTM is second best, close to 30%. This segment is emerging very promisingly. We are seeing every year almost 25-30% growth in this segment. Today it is contributing almost 70-75% of our day head market. So, when we started this in 2020, we never imagined that growth would be so fast. This is again on the basis of

collective transactions and all the utilities, all the CNI consumers, they have very strong faith in this price discovery, and they find this as a very robust price discovery, very transparent, very competitive. And precisely this is the reason that the segment is growing at a very fast pace.

We have seen that the DAC segment has gone down. And this is one segment in which volume increased, because there was an issue related to duplication of the transmission charges. Now, after the implementation of GNA, which got implemented from October 2023, we have seen remarkable correction in this segment. It has gone down and the volume that has gone down there has shifted to the day ahead (DAM) and real time market (RTM). So, that is again good for us, because DAM and RTM are segments where our volume, or our market share is 100%.

Green market is growing fast. In fact, today in the Green Day Ahead Market, we have done 43 million units (MUs), this is the highest ever volume done by us (in a day) and this is very significant, because when we are doing less than 200 million units in Day Ahead Market (in a day), 43 million units is almost 25% of the market. So, the growth has been very, significant there as well. This is again one segment which is growing.

And there is potential in Term Ahead Market also, because DEEP even today, DEEP platform is doing 40-billion-units trade in a year. And with three months contract we have converted some of them and with the launch of 11 months (contract) that we are going to do later part of this year, a lot more conversion will happen. So, Green Market is something where we are extremely bullish, RTM is another segment where we are bullish. DAM is consolidating, DAM is also improving after DAC volume has started to go down. And another opportunity is REC volume where also we have seen very good improvement.

This year prices have been range bound. Prices were quite good. So, you can see that as compared to last year it is almost flat, and this is great news because volume or the demand in the country increased by 11%. So despite 11% increase in demand, there is no major pressure on the prices, which means that there is a real improvement on the supply side. This has happened due to various initiatives taken by the Government and going forward as more and more capacity will come - the solar capacity and the conventional capacity that we are going to add - this is going to increase supply in a big way in the times to come.

Now moving to the second part of the presentation, I'm going to talk about some of these growth levers which are very important for our future growth.

Increase in power consumption, new products and regulatory developments, Re-designing of electricity markets. Some of you may be aware that there was one Report by a Group formed by MoP for the Development of the Market, deepening of the market. They have also given certain areas where we have to work upon, so that deepening of the market can happen. The point that they have mentioned (in the report) that they want to increase the size of the market from the current 7% to 20-25% such that RE integration can be done most efficiently.

Energy Transition also provides lot of opportunity for introduction of newer products. Diversity of demand supply is also playing a very important role. I will share a few examples

where how the surplus power which is available in the daytime provides a great opportunity for utilities to replace their costlier power and also for some demand shifting which can happen and they can take advantage of cheaper power which is available. And then the supply side, we are expecting a lot of improvement going forward, which is also one important area where we can get something out of it.

GDP growth is expected to be 7% and we know there is a strong correlation between GDP and electricity demand. What we have done here is that we have analyzed data for the last 10 years and you can see in the graph, electricity demand for last 10 years has been growing at a CAGR of 5.4%. So, if we compare our growth vis-à-vis this 5.4% we found that there is a multiplication factor of 2.7. Which means that going forward if GDP is expected to grow at 7% and electricity demand is expected to grow at 6% plus, then six into three is something what we can expect as IEX growth in the case of business as usual. I'm not factoring in all the additional levers that we are going to capture in the subsequent slides, but on a business-as-usual basis also there is immense potential to grow and 17-18% is something which can be easily achieved.

But the kind of electrification we are seeing, the universal access which government is providing, the reliability factor where increasingly our focus is on improvement in the reliability, leading to AC (air conditioning) growth in a big way with indications that by 2050 the penetration would be at nine times, and you know that AC consumption is really very high. Similarly, some other factors like data centres, railway traction, EVs, all these factors are going to drive growth and considering this, the growth forecast of 6% is not high by any standard. So, the real number is expected to be much more than that. So, this is one business as usual case where we expect demand to increase, and demand will lead to more and more participation on the exchange platform.

Moving to the second growth lever, which is new products and regulatory development. In this, as some of you are aware that we have already filed 11-month contract approval with CERC. So, TAM today is allowed up to three months. And once we get that approval 11 month (TAM) will also be introduced which will give us access to additional 40 billion units which is being done on the DEEP platform. Similarly, green RTM is another segment we have received a lot of feedback from some of these (RE) regenerators where they felt need of introduction of green real time market also. Today, this segment is not there. And we have reached out and have already filed petition with CERC for giving us approval so that this can also be launched.

LPSC rules. Mr. Goel explained in detail about that. We are getting almost 80-90 million unit participation as a sell from this particular category. All the PPA based plants - NTPC and all other CPSUs - they are placing their bids for all unutilized power which is not being taken by the beneficiaries. And here majority of this is coming in RTM - 60% of the bids are coming in real time market and remaining 40% is coming in Day Ahead Market. So, both these markets are on the basis of collective transactions and the clearance has been ranging between 10 to 20 million units. We have in certain cases seen clearance going up to 25 million unit also. So, this is again substantial volume. And today it is only up to Central generating stations

tomorrow when IPPs will also be included, or States will also be included this number will multiply.

Optimization potential - this is one area where in last three years we were not getting a lot of volume in this particular category because prices were very high. But now, as the supply is improving, we have seen there is declining trend in the prices as coal prices are coming down. And then there is more solar power available during the daytime - three rupees power is also available. So, optimization has started again. This is one segment where we are expecting lot of growth to come from this. RECs we have discussed. Since the prices are low, there is lot of pressure on entities to meet their obligations. We expect going forward, REC is going to continue.

Let us have quick look on the MoP Report of the Group on Development of Electricity Market in India.

They have shared multiple initiatives. Some of them can be done on the short term basis, which is up to one year, some can be taken up for medium term and then others can be done over the long term. We already have ancillary market available which is the tertiary market. So, this has already been introduced, this was also one of the items to be done in in the short term. Then there is Resource Adequacy and integrated resource planning. So, CEA has already introduced the procedures and many of the States have done the analytics part of it and they have identified resource shortages and they are in the process of meeting these resources. So, one opportunity which is there for us in this particular area is the possibility of launching a short-term capacity market. So, if you have a short-term capacity market, resource adequacy for up to one year can be efficiently met by using these markets. Today, we know that there is about 15-18 gigawatts of merchant capacity available. This capacity can participate in the capacity market and today they are getting only paid for energy. So, going forward it will be a combination of energy plus capacity, and it is going to be beneficial for the sector as a whole.

Market based Renewable Energy, this is one thing which has been talked about for a long time now. So, the first step was introduction of 1,000 megawatts through market and then gradually scale it up. Whole idea is that up to long term, let's say three years down the line, major part of the capacity addition should happen through the market and that can happen only when you have a deep market available. So, development of the market plays a very important role for future capacity addition.

Demand response in the form of more stringent ToD. So, ToD also there is a lot of issues. It is not efficient in India today, because if you see the price difference during the daytime and evening hours, daytime price is three rupees, while evening price is 10 rupees, which is three times. But when you see the ToD pricing, you will find that difference in the ToD prices is not more than 20% in any of the State. So, here we have to make some more regulatory interventions where we have to increase this difference. So that there would be demand shifting and if that demand shifting is there, because we have a lot of capacity available during the daytime which is not being purchased by anybody, there would be increasing clearance. Long term capacity contract and also the ancillary services, secondary ancillary services

through market, is something which can also be introduced from one to two years - in medium to the long-term basis.

So, this is one example which I want to share with you. We talk a lot about energy transition. We did a small exercise where we compared ourselves with the European market. So, we looked back, we analysed their historical data, and you can see in this particular graph that we have compared two things - one is share of spot market in the total generation, which is where we (India) are today, we are at 7%, and then also the overall share of RE in the total consumption of the country. Here you can see that, in 2000-2010 UK penetration was almost about 10% and their share of RE in the total consumption was about 20%. So, we (India) are almost there. If you include hydro our RE penetration is 20% and (the share of short term) market is 7%. So, we are at the same place where they were in 2010. After that, RE penetration increased and you can see that the spot penetration also increased in a similar vein. So, today both the things are at almost 45-50%. There is a lot of similarity between them (and us). We are at a very initial stage now, we have to work upon creating both the things, we have to increase the RE share and also have to work upon so that market penetration also increases. Some of the ways how it can be done particularly related to energy transition, is that we now cannot deny requirement of Contract for Differences (CfDs). This is definitely needed. All countries that we are referring to whether it is UK, Germany in last 10 years, whatever capacity they have added, it is all through CfDs. So, there is no bilateral capacity addition happening in those countries. Whatever has to be done, it has to be routed through market, and that is why we have seen huge addition and the penetration of the market as well.

The Second important thing is Virtual PPA and Merchant RE. Merchant RE we are already seeing. In this particular year we are expecting 3,000-megawatt capacity addition purely on the merchant route. In fact, as I shared with you, 40 million unit per day are being traded today, a large part of that capacity is coming from merchant generators. Some of these are generating without tie-ups and continue to sell their power generation through the markets. Virtual PPAs are very popular overseas, particularly in USA and this model is applicable for CNI. In this model, what happens is that the generator (A) enters into a contract with a buyer beneficiary which is (B) which is generally a corporate, so, likes of Google Amazon, who have done many VPPAs now. What they do is since there is a lot of variability in their demand, their profile is very different, they need a lot of power during the evening hours and night-time requirement as well However, this generator (A) is only a solar generator. So, what they do, the buyer continues to draw power from distribution utility, and uses this agreement only for the purpose of transferring the green attribute. Let's say this agreement is done at three rupees. So, what we will tell (A) is that you have to sell the entire generation in the market. You continue to sell your power in the market, I will continue to draw my power requirement from the distribution utility, but whatever is your generation, you convert that generation into let's say REC or in any other form of green attribute and transfer it to me (Corporate). So, what the corporate has achieved has thus converted their entire portfolio into green, having obtain the green attribute. There was a price which was three rupees which was in a way contract for difference price. Now, suppose the market realisation for generator A is less than three rupees, the buyer will compensate the balance/difference. Let's say market realisation was 2 rupees 50 paisa, buyer will pay remaining 50 paisa to the generator, so that the three rupees is met. This is how the capacity addition happens in many countries.

And indeed, in India also this has started. Today, the first transaction was done between Amazon and Renew Power. There are lot many transactions which are going on. So, this is one area where we are hopeful that, if the capacity addition will happen, then this supply will also come in the market because there is no other way that this supply can get absorbed in the system, it must come in the market. Because when you have one tie up in place, you cannot do a second tie-up, you will have to sell this capacity on the bilateral mode.

Then firm and dispatchable RE, the new buzzword, where a lot of action has happened in the last one year. The prices have come down drastically and we have seen different forms of this and Battery Energy Storage. So, let me move on to the next slide.

Today, firm and dispatchable RE has got three models. One is where there is a solar plus peak energy requirement from the buyer, that falls under the category of firm and dispatchable. So, I need solar profile. At the same time, I also need 50% of the peak capacity from the solar profile in the evening hours, let's say two hours. Recently we saw one tender was of 1,200 megawatt and 600-megawatt combination was auctioned and 3 rupees and 41 paisa price was discovered. Now the second option here is RTC (Round the Clock) power. Now, when there is a requirement of RTC power from the buyer, the generator has to look into various technologies. He will have some part as solar; he will have some part as wind, probably some part as small hydro and then the remaining battery. So, all these sources he will combine and then use this to supply RTC power to the beneficiary. This was seen in the REMCL tender, where RTC power was procured by REMCL and there was huge participation. Third is load following. In this we have seen couple of tenders where state will give in advance a 12-month load profile to the buyer. They will say that in the month of May during the daytime, they don't need power but in the evening, they need full power in the night. Similarly, let's say in the month of August, my agricultural demand would be there, and I need complete 24 hours same quantum and say some other month, I need only solar profile. So, all these requirements for 12 different months will be shared as part of the tender and then the buyers will participate, and the price will be discovered.

In all these cases, we have seen that prices have broken the ceiling of 5 rupees, prices have come down below 5 and Rs 3.41 is one recent example. There are some more examples, yesterday also one tender was there were 4 rupees 98 paisa was the price discovered. The good thing or the value for us in this particular thing is, that in all these tenders there is lot of oversizing which is required to be done. So, if I have to meet that requirement, I have to oversize my solar by, let's say, 50% and with wind by 70-80%, because I don't know when it will come. And I have to make that combination to meet the 12 months requirement. So, when I'm doing over sizing, we have lot of data available where analysis can be done, it is found that 20 to 25% of energy is going to be surplus, and this energy is highly intermittent in nature. Which means that for me, the most efficient way to dispatch this energy is to sell it in the RTM or at max in the Day Ahead Market. I cannot do any other type (of transaction). I cannot enter a bilateral contract to dispatch this power. So, this is one great opportunity we are eyeing. Here you can see the May requirement from one of the state utility, which was

Punjab, which was FDREs tender launched about six or seven months back. So, these sorts of profiles are there. And you can imagine how difficult it is to meet this requirement. Because normally during the daytime you have solar peaking and you have to have battery or you have to have wind in place, then only you will be in a position to meet this. So, this is going to result into lot of surplus capacity.

And another thing important here is globally all the battery, BESS addition is happening on the basis of commercial arbitrage that market is providing. So, refer to any place, there are two ways one is Ancillary, where system operator is doing procurement of BESS to meet the balancing requirement and second is the IPPs, they are investing. They are investing purely on the basis of what differential or what arbitrage they can get from the market. In our case, we have seen that daytime price is 3 rupees, nighttime price is 10 rupees, there is a clear 7 rupees premium which can be made. So, let's say, I have a BESS available. Seven rupees one cycle is available throughout the year. Now, there is some more opportunity available. Sixseven months in a year, there is a morning peak also which we are seeing. There is a peak in the morning because of the winter season particularly in the Northern States. There is another 10 rupees peak, which comes in the morning at 6,7,8 am sort of time. So, then second opportunity is also available. So many IPPs today are looking at these data and some of the development happened where VGF scheme has been launched by MoP Government of India, where they are saying 4,000-megawatt capacity will be launched. Similarly, there is a NVVN tender on the VGF model. One tender is already out which is a 250 megawatt or 500megawatt single cycle or double cycle tender is already there.

So, all these developments are going to absorb surplus power which is there during the daytime and going to provide more supply particularly in the peak hours. What it will solve is, it will solve two things. First of all, clearance during the solar hours will increase which is not there today, because there is not enough demand and second is when supply will increase in the peak hours, then again clearance will increase because we are not able to meet the requirement which is available today. So, this is what I was referring to at the bottom graph on the right-hand side. This is the price, the black curve is price, these are the sell bids. During the daytime you have so much sell available and this is the clearance. Evening you can see that there is a dune and morning also there is a dune. This is surplus buy which is there, and we are not able to meet this demand. So, we are not able to meet morning demand, we are not able to meet evening demand and daytime we have surplus. So, all the points that we have discussed, which actually flatten this curve, and once this curve gets flattened, somewhere in between there is going to be a lot of gain in the clearance of volume. There is some other diversity also available. Today, generation is coming in some part of the country. We know that wind is coming in the Western Region, Solar in the Southern Region Western Region and lot of exchange is happening because Eastern side, there is no solar capacity. So, whenever there is demand in Eastern side, they are coming to the market to buy, generators who are sitting on the Western side or the Southern side they are selling. So that way a lot of diversity is getting exchanged with the help of power market. Similarly, we have seen that some of the States where we have too much hydro resources available and they do not have enough demand during the monsoon months - Himachal, J&K, Uttarakhand and they have surplus power available, they supply this power. They come to the market to sell this power

and States like Punjab, Haryana, UP, all of them where they have huge demand or Telangana, where they have huge demand during this time, they come to the market to meet that demand. So, wherever there is a diversity, it is going to create a marketplace and the exchange will be very efficient, if everybody will come to one platform. Just one more point here, we generally believe that peak demand comes during the evening hours. This is our normal belief. But recently what we have seen over the last one year, whenever peak demand is created, last month it 250 gigawatts, it came during the daytime. So, why it is happening you can see the graph on the top 30<sup>th</sup> May 2024, peak demand was 240 to 250 Giga gigawatts, and it came at around 3pm, between 2 to 3pm. Why is it happening? Because lot of demand shifting is happening. The agricultural demand is being shifted to the daytime.

And this is also one very positive thing for markets because, again the same principle, if you have that, clearance can be increased.

On the supply side, we are seeing improvement in coal production. Last year it was 12%, this year again Q1 it was 11.7%. Imported coal and gas prices are under control; inventories are decent; E-auction prices have come down; new mine allocation is being done; commercial mine is also taking shape, even though it will take some more years to come to the market. But these are some of the things which is easing the supply side constraint on the coal and also helping overall generation in the country. So, I was just checking the data, Q1 coal-based plants, they recorded PLF of 76%. So, this is the highest PLF I've seen in last 15 years. We have never seen this kind of PLF at an all-India level, where you have state plants, smaller plants, central plants are always doing better than the state and smaller plants. But that kind of PLFs have been achieved. Similarly, gas PLFs have increased; last year it was 15%, this year in Q1 particularly it was 25%. Gas is not sustainable, we cannot expect 25% PLF throughout the year, but whenever there is a crunch period, whenever the prices are high, whenever the requirement is there, we can expect the capacity to be available which will be made to run and made to supply.

So, these things we have discussed load shifting and capacity markets, there is a good case for both these things. And lastly the derivatives, the derivatives are again something which we have been discussing for a long time. But as the market is growing, your dependence on market is increasing. Today on an average basis we are 7% but there are some states whose dependence on the market is more than 20%. For them, hedging option is also needed. So, it's not a residual market, it is mainframe market and if there is a mainframe market, then hedging option is also required, which means we need to have derivative also in place.

Moving on to the last slide, which is diversification. On the Gas Exchange, we have a small presentation, where we'll be talking about the numbers and growth potential, and this is one area; I think we are doing very well. IGX is performing very well. We have seen very good numbers in Q1 also. In ICX there is some slowdown because of the reasons explained by Mr. Goel; as we want to do it in a GIFT City because of dollar issue or taxation issue particularly, and if we have to do that, then carbon as a commodity must be included in that approved list, which it is not there today. So, some work is required to be done. Once we do that, and once it is there on the approved list, we would go ahead with that as well. Coal exchange is another area where there is a requirement. Government itself is talking about it. They have included

it in the 100-day agenda, and we have already started working on it. We are trying to design contracts, we are trying to understand dynamics in the coal area, what sort of hubs could be there, where are the mines, which can make some sense of coal trading, all those things are being evaluated. And we expect that going forward, we should be able to create some value in this particular space as well.

Just to summarize, the story that I am sharing involves different growth levers. One is increase in demand and supply. Demand, I think all of us believe that it is going to be there. Supply also, since a lot of capacity is going to get commissioned particularly 28 gigawatt which is going to be there in next three, four years. And then 50 gigawatt which has been recently announced, though some of this capacity will come under long term, but we have seen that whatever is being added to the state, directly or indirectly, it finds its way to the exchange platform. Large capacity addition in RE and storage cost, I think is another important area. Six months back, we were not ready to believe that BESS cost would come down so drastically but with this development, we expect a lot of smoothing of the curve. And if that happens, a lot of supply will also come with a declining cost, and it will also give lots of push to the capacity on supply side and also on the demand side.

A Favourable regulatory and policy framework is crucial. Government is keen to develop the market. They are working for deepening of the market. And this is also going to result into some meaningful numbers. And diversification, particularly coal is one area where we have started working and we hope to do some more work in this direction. With that, I end my presentation and I now call upon Mr. Amit Kumar to talk about our Customer Centric initiative as well as advancement in the technology. Thank you so much.

## **Amit Kumar:**

Good Evening Everyone. So, like Rohit mentioned, I will briefly talk about the Customer Centric initiatives that we have taken, which has helped us have a good market share and ensured that for customers IEX remains the preferred technology platform.

Customer Centricity is a very, very important focus area for us, right since our inception. And we continuously work on this area and some of the key things that we do as part of this is to ensure that we are very, very closely connected with our customers. We do a lot of capacity development programs for the customers through one-on-one interactions, one-one workshops, and also group workshops, where a set of customers participate. And there we talk about the offerings that we have on our exchange platform, the regulatory developments, and what impact it has on how our customers can use our exchange platform for getting much more benefits. And we'd also like to hear from our customers and get feedback about what are the new things that we should be doing, which can enable our customers to get more advantage from our exchange platform. So that is something that we do very, very actively.

Second area is promoting open access through conferences, seminars, and also doing a lot of regulatory advocacies to try and make open access viable within different states. So that is one area that we actively work upon, so that our Open Access consumers can take much more advantage from our exchange platform.

EnergeX is our web-based trading platform that we have launched to provide a lot of ease of doing business to our customers. Right from the pre bidding activities to the bidding activities, and also post bidding activity. So, it provides multiple, good experience touchpoints, like digital onboarding, very easy financial reconciliation, web based bidding, and advanced analytics as well, which helps our customers make effective bidding decisions.

To make the bidding experience much more seamless and much more automated; we also provide our customers with automated API's through which they can completely eliminate the manual intervention in bidding. Our large customers, both on the distribution company side as well as traders, they are integrated with our platform through APIs, and they take advantage of the automated bidding. This is one of the key drivers for the kind of growth that we are seeing in volumes in the Real Time Market, because in the Real Time Market, the trading happens 48 times within 15 minutes bidding period. A lot of times bidding decision making needs to be taken with data getting available just two minutes before the end of bidding session. So, having an automated solution which enables customers to get automated bidding done right from their system into our system makes bidding much more efficient. And through this, they are able to attract huge volumes effectively on our platform.

We are also working on providing our customers with back-office API. So just like the benefits that the customers get through the bidding API's, we also want to extend that benefit into the back-office API, so that the entire back office systems of customers that they use for the trade report, the financial reports, they can integrate with our back office systems and again get advantage of a completely automated experience.

Some of the key focus areas that we have worked upon in the recent past and we continue to do so on the technology side is around the improving the business continuity robustness of our platform. Now, we have the infrastructure setup done from application and technology infrastructure perspective, where we can do a DC-DR switch in real time mode. So, this improves the robustness of our business continuity.

The other thing as we mentioned that Real Time Market is one of the fastest growing markets in suite of products that we have on the exchange platform. And we continuously focus on doing enhancements to ensure the high availability of the Real Time Market, Currently, it operates as almost close to 100% high availability.

Security in today's world is very, very important given that we are a technology platform and where the entire interaction that customers have through the online platform. So continuously focusing on implementing best in class solutions to ensure that the security is something which is best in class and prepares us to provide a very, very secure experience to our customers in terms of bidding.

To ensure that, our exchange platform is operating at best of class level in terms of durability, deployment speed, scalability. We continuously do technology design transformation and as a part of this, we are working on implementing micro services-based architecture for our key technology platform components.

Artificial Intelligence is an area which is being used actively in different functions by businesses globally. And one of the key areas where we feel that it has great value in our kind of businesses is how we can use AI based solutions to look at the various data that is being created in terms of infrastructure monitoring to make the infrastructure monitoring and security monitoring much more robust and much more effective. So that is one area that we effectively work upon.

Another key highlight that we would like to share is that there are a lot of initiatives that the government does around environment and promoting clean energy and one of the initiatives that was launched last year, spearheaded directly by our Honorable Prime Minister is the Green Credit Program, which he launched in COP 28 on 1st December. And we are very happy to share with all of you that ICX; which is our subsidiary company has worked with the Ministry of Environment and Forests and Climate Change to develop the registry platform and the web platform for this Green Credit Program. As we have successfully developed those two - green registry platform as well as the web platform for green trade program initiative. This initiative currently is live post the announcement by our Honorable Prime Minister and through this program lot of land parcel is being added which will be used for forestry development leading to green credit and o environmental growth. So, this is one area where we are using our technology experience, we are contributing to the larger goals of the Government and of our country in enhancing environmental effectiveness. With this, I would request our CFO Vineet to come and talk about the financial performance of the company. Thank You.

# Vineet Harlalka: Thank you.

For the actual business, the financials are bit much simpler part in comparison to manufacturing. But still, the investors are more concerned with the final numbers. What is the outcome of all the activities and all the efforts put in by the BD team, the operation team and all.

So, we had seen the overall opportunities, the triggers, what we were looking at going forward, the technology development. And if you look at the past performance of the Exchange, you must be aware the total overall volume growth; we achieved a CAGR of around 16%. If we look at the financial year 2021-22, there was a significant growth and now that things are getting back on the track, and with the 16% volume growth, we are maintaining our operating revenue of around 15%, which is all in line. And despite increasing in the operating revenue at the Exchange, we maintain that there is a significant control over the cost. The cost is still more or less consistent with the 7% CAGR and much lower in comparison to what revenue growth is. So overall, we achieved the PAT of 18% which is much more than revenue or volume growth, mainly because of the more level of expenses and nature of exchanges is such that our operating cost is much more flat in comparison to others and is directly related to the volumes.

This is something I like to highlight to everyone that despite increase in the revenue, the operating expenses are more or less flat around 12%, which gives us good control over the cost side. Overall, there is a significant growth in the EPS of the company. And the one critical thing which I missed highlighting is the kind of investments which were made on the

technology side - whether it's robustness, whether it's security, whether it's customer centric activities - which are reflecting in the numbers. If you look over the period, the significant amount has been spent on the technology side, whether it's capex or opex, both sides to give the best class of experience to our customers and to meet all the infrastructure to put in place, so there is continuity in the operations.

If you look at the total value created for the stakeholders, and we continue to follow our robust dividend payout ratio, which is around 50% of the total profit, we share with our shareholders. And we have been maintaining that ratio at around 64% last year and currently it is around 65%.

Overall shareholding, though this is filed to the stock exchange on the quarter ended for the June 30. This is more or less in the same line. We have around 15.5 lakh shareholders on 30<sup>th</sup> June.

If you look at the HR side in IEX, because after Technology, the most critical part is the team. Because the experience and the knowledge, because the kind of robustness for the systems and because systems are there, but you need people to operate to understand the technicality. For that, we spend a lot of time and effort to train and maintain people and that's why these are the four and five drivers, which we took to keep our people ready for the future roles and for future developments.

The main thing is capacity building, because a lot of new things are coming. How to Upgrade us, our team to meet the new requirements. And one critical thing which I would like to highlight here is the Cross Border Knowledge. Last year, we had an exchange program with the Turkey Power Exchange. With Turkey Power Exchange, people came to the exchange (IEX) for a one week visit to understand how the power exchange business works in India. And then the IEX team went to Turkey to have that similar experience, how the power exchange works in Turkey. And similarly, we had study tours to Singapore and Berlin to understand how the European markets work and that helps us to bring the worldwide thought process, the working culture, the innovation in the products. So, this is the continuing efforts and the cost we put on that to have a more forward-looking approach to all our activities. And I am just happy to share that for the second year in a row IEX has been awarded as the best (Great) place to work.

Now without taking much time, I request Mr. Deepak Mehta to come and share more details about IGX. Thank You.

#### Deepak Mehta:

Good evening, everyone. Mine is the last presentation for the evening and I'll try my best to hold you together.

So just a brief background, since we already had a success story in IEX, we thought why not we should try in the natural gas sector also. In June 2020, we launched as a 100% vehicle IGX, with no gas exchange regulations in place. We started as a pure trading platform. Post that the Government also realized how important this segment is, so they appointed a regulator for this segment that is PNGRB. They came out with the gas exchange regulations somewhere in September-October (2020) and we applied and since December 2020, we are the only Exchange in India operating under the ambit of PNGRB. Post that, we started looking for key strategic investors. We knew that we had a very good plan and vehicle in our hands, and we approached few of the key entities and in no time, we could get five important strategic investors. Namely Adani, Torrent, Gail ONGC, IOCL, all joining IGX. IEX sold their stake to them. So, there is a restriction from PNGRB, that no member can hold more than 5%, just to avoid that conflict of interest, that's the reason all five are holding 5% each in IGX. And post that we started our discussions with NSE also, one of the most important financial players in the world. So, they took 26% In IGX and balance 47% is currently handled by IEX.

Brief about the IGX model; we have traded more than 12 Crore MMBtu till date. So, when you say 12 crores, each molecule has resulted into deliveries. There is no netting off that is allowed. We also facilitate deliveries between buyers and sellers. We have a proper delivery department who takes care of each molecule, the imbalance part, and other things. The main USP you can see here is that on IGX, you can trade for a delivery from one day to 12 months. So, maybe in 2019 nobody thought that buying natural gas for one day would be a reality, but that has become possibility with IGX going live. We have seen trades in all the variations. Our day ahead contract is very active. We have also seen trades in 12-month contracts recently. And we also have a special contract for CGD companies where they have demand from Monday to Friday. We call it a weekday contract. You can see a weekday contract also very actively trading on IGX.

One of the important reforms which was made by the Government was in August 2021, where MoPNG allowed sale of domestic gas on the exchanges. So, by virtue of this, we have conducted 100 plus auctions for Reliance and ONGC, which shows the confidence they have in our systems. Each auction has been done very smoothly by us with no default at all. So, 12-14 crore MMBtu traded till date without any default and without any penalty to any of the buyers and sellers.

You name any prominent entity in this space; they are actively using our platform. Big players like GAIL, you talk about OMCs – HPCL, IOCL, BPCL, they are actively using our platform either to buy or to sell their molecules. So, this is one good thing which we say that tomorrow if reforms are going to happen or when the Government's mission of increasing natural gas consumption to say 15% of overall energy mix, presence of these players will take our volumes from the initial base. That initial hard work, you can say, we have already done. We have connected them to our platform. Once these opportunities are provided by Government reforms or by increase in infrastructure - laying of pipelines or increase in re-gasification capacity - you would see volumes on IGX increasing like anything.

These are the volume numbers as I mentioned, we started on a very slow note but quarter one (Q1) of this financial has been very good. Highest ever volumes we have seen on the IGX

platform almost two and a half times of what we did (the same quarter) last financial year. Even natural gas consumption in India has been on the higher side I would say in the month of May. India's consumption was around 217 mmscmd which is the highest ever till date. So, we are moving in sync with the physical market.

Our future plans, we are working on LDC contracts. Long duration contracts right now, you have a 12-month contract, but it is on a fixed basis. So, there is a demand from the market side that we should have a contract which is linked to some of the international benchmarks also. So, for this purpose, what we have done, we have entered into a licensing fee agreement with the Platts that's S&P Global Platts. So, by virtue of this, we are now authorized to use their benchmarks, the famous benchmark i.e. WIM, JKM, and Brent. So, once we receive this approval from PNGRB, you would see these assessment contracts also listed on IGX. Maybe then buyer and sellers would have the option to select the index on which they want to either buy or sell their produce for a quarterly contract up to a one-year contract. So, exchange is very bullish on LDC contract and approvals are expected very shortly from our regulators.

We are also working very closely on CBG and Certificate trading. We just want to take the IEX model forward on what they have in green power. Similar model we want to have such that CBG can be listed as a separate commodity and the certificates generated through those CBG generation can be sold separately on the IGX platform.

We are also in talks with Bangladesh, in case there is a requirement from that side, because their consumption is almost half of India. So now with Dhamra terminal going live, there is a road connectivity through that terminal to Bangladesh. And recently we have the small-scale LNG contract also, which means that you can transport natural gas in liquid form through trucks. So, Bangladesh buying natural gas from India may be a reality in coming months. You might see that on IGX.

We have also started working on hydrogen. It is too early to say but we have already executed a few of the MoUs with ACME and GIFT City and we recently also got the authorization from DGH. What this means is that all the domestic producers in India, whether they are producing from the KG basin or from Coal bed methane, they can use our platform to auction their produce. So DGH usually empanels, five agencies. So IGX is one of the agencies now. We have not yet conducted any auction till date, but first auction you can see on IGX platform maybe in a couple of months.

Now, few of the growth levers as I mentioned, that government is very bullish on this segment, they feel that by 2030 natural gas demand would simply double. So, if you are consuming say 200 mmscmd today, by 2030 this would be 400 mmscmd and with the growth plans of laying new pipelines and re-gasification capacity going up from say 47 MTPA to 77 MTPA so, IGX can easily say that we can be at least four to five times of what we are today. So, if today we are generating a PAT of say around Rs.27-28 crores, maybe five years down the line you can see four to five times what we are doing currently.

That's pretty much from my side. If you have any questions, we'll be happy to answer during the Q&A session. Thank You and over to you.

Thank you team IEX. Please note that the PPT and the audio recording will be available on the website very shortly. I think now is the time when everyone will have a lot of questions. So may I please request the admin team to please set up the chairs and have management team on the on the stage for Q&A. Thank you,

<u>Participant 1:</u> Hi, Congratulations, for a good presentation Sir. It was very well made. My first question is on the market share right. Our market share used to be very very high. I think till FY22, post FY23 and I think last couple of years, the market share declined. What can we do to regain the market share and protect our MOAT?

**SN Goel:** See, prior to FY22, the transactions were mainly in Day Ahead Market (DAM), the RTM market and Intraday and Day Ahead Contingency (DAC). We did not have any Long Duration Contracts (LDCs), because there was a dispute between jurisdiction of SEBI and CERC. That was resolved and from 2020 July, I believe the Long Duration Contracts were also launched. The volume in the long duration contracts started happening from July 22. And as you are aware that these contracts are basically bilateral contracts and in the bilateral contracts, all three exchanges have equal opportunity. So, Day Ahead Market and RTM market continues to be our domain area. Our market share in that is almost about 99 to 100% and in the bilateral transactions also, which are DAC, Daily Contracts and LDC Contracts, Certificates, the market share is about 45 to 50%. So, that is why, there is some dip in the market share and since the new exchange also has come, so, it has affected (market share). But then market share last year was about 83-84% and we hope to maintain similar kind of market share because the DAM and RTM transactions, they constitute almost about 70% of the total exchange transactions. So that 70% is still with us. Out of the balance 30% again 30-40% is with us. So, we hope to maintain that.

<u>Participant 1:</u> Understood. My second question is on open access volume. It used to be very, very large when you got listed, about 40%. And that volume has only declined. Can we as a company can do something about you know, nudging the policymakers to make the right you know, regulations so that open access volumes which you know are stickier even more granular, and that growth has stunted. May be there's something we'll see that while government can do in the near future which would help this business come back.

**SN Goel:** Yeah, Open Access volumes, you know, in 2015-16, around that time, it used to be almost about 50-60% of the total exchange volumes. And more because the clearing price at that time used to be two and a half rupees. And at that kind of rate, there was viability in most of the states in spite of the cross-subsidy and other charges. But in the last three-four years, the clearing price has increased because demand has increased on the exchange platform, Distribution companies themselves are big buyers from the exchange platform. Earlier distribution companies were not very active. So, I mean, distribution companies say that Open access consumers are buying, industrial consumers are buying from us, and we are buying in turn from the exchange. So, in any case, the demand of the country is coming to you. So, because

of the increased clearing price, the viability has reduced now. Policymakers they are definitely working on this to have more conducive regulations, but one of their issues is the high clearing price.

<u>Participant 1:</u> On the Carbon market, we spoke about the international carbon market, but I think in the budget, the Government is talking about a National Carbon market. What kind of role you see for IEX and (if you could give) some colour on the volumes which you foresee?

**SN Goel:** See, Carbon markets are going to be of two types. One is a Compliance market, and the other is a Voluntary market. Compliance market will be basically regulated by the Government of India. The Bureau of Energy Efficiency (BEE) is going to be the nodal agency and CERC will be the regulator for that and this carbon market will be operated by the existing exchanges. As far as the opportunity size is concerned, it depends on when they are going to implement this and in which particular sectors they are going to start with. It all depends on that. They have to also define the baseline for those sectors and then start doing the monitoring and issuing the carbon credits. So, it may take some time, but then in the compliance market the opportunity size is very big. It can be as big as the REC market. And Voluntary market which is we were thinking of targeting through our International Carbon Exchange. There it is voluntary, meaning, any carbon credit which is not covered by the Compliance market can be through the voluntary market.

Participant1: Thank you. Thank you.

<u>Participant 2:</u> Good Evening Sir. So, just following up on the previous question with the GNA implementation and the shift from DACto DAM and RTM, Some market share improvement would have happened in Q1 FY25, I reckon for IEX.

**SN Goel:** On numbers I will request Mr. Rohit to...

Rohit Bajaj: Yes. So, there was massive improvement after implementation, which was in October 23. So, after October 23, November, December, our market share increased to 91-92% because that time there was severe hit in the DAC volume. There was a lot of supply available and there was no need actually for DAC volume. But in Q1 what happened particularly last two to three months, which was election time and then supply crunch was there, certainty was not there, some of the participants were again going to the DAC market and securing power outside the Day Ahead market. So, they were paying the same price for peak power they were buying, but they were buying it from outside the market. Because of that our share has taken hit again (because) there was some DAC market which was happening. But if I compare it with last year, it was definitely less by 50% but still it was there. So our share till in this particular year till now is 80% in Electricity. So, it is a little low in Q1 particularly because being an election year, DAC TAM transaction going on. Our share in TAM is also about 50%,. Certificate transaction have increased, you have seen that out of 30 billion units in Q1, 2 BUs was done in certificates only. So all these things put together has put some pressure, but we expect that as the supply will continue to ease in months to come, we can again go back to...in fact, if I talk about July month, our market share is 90%. June month it was 90%. So, we suffered some losses initially, but we are recouping it and going forward again we would be reaching 84-85% Level.

**SN Goel:** See, three-four months in a year when there is a high demand prepared, this DAC and bilateral transactions increase and during that time and the share comes down slightly to 75%. But rest of the time it is in the range of 85-90%. Overall, we definitely will be achieving 83,84, 85% market share.

Participant 2: So taking a cue from that, you know, the REC volume will...

**SN Goel:** Even with this market share, I expect the volume growth that will continue to happen at a good rate.

<u>Participant 2:</u> And it's heartening to see the REC volumes going up so sharply and you spoke about how the pricing has declined. But how has the backlog of you know pan India,REC shaped up over the last one year. So, what has been the liquidation? What is the potential increase if you can see given the RPO obligations?

Rohit Bajaj: Yes. So, there was one change in the regulation or change in the policy rather, where hydro is also now included as RE. Earlier small hydro was RE, but now, big hydro is also considered as RE. Now, because of that, suddenly States like Uttarakhand, Himachal, all of them, they have become surplus, and they have filed for Issuance of these Certificates, and they got issued in bulk, huge numbers. So, today inventory stands at more than 3.5 crores. Demand as we see, we have seen that in the first quarter, it was 30. Last year, if I talk about complete last year, overall demand was in the range of 70 lakhs only. So, as against 70 lakh demand, there is huge inventory, which is there, and this is precisely the reason why prices are coming down so drastically. As I mentioned from Rs.1,000 It has come down to Rs.128. But, good news here is that Rs.128 is a price point at which many utilities and many consumers are interested to meet their RPO obligation. So, they were not keen to meet RPO obligation at 1,000 because cost was huge, but this has come at a price where they are really interested. And precisely for this reason, we have seen some traction in Q1 and we hope that this momentum is going to continue and we will achieve very good numbers in this particular year.

<u>Participant 2:</u> So, given the need for you know the RPO targets being what they are, so 70 lakh liquidation run rate, can it go to 140? I mean, what is stopping that? Because if everybody has to be RPO compliant, what is the requirement. Requirement must be very high.

**Rohit Bajaj:** So, I'm not.... I'm not getting the question.

**SN Goel:** RPO requirement is definitely high. And unfortunately, the monitoring of the compliance is not very strict. So, there are many States who are still not meeting the RPO compliance. Because, for distribution company purchasing power is more important, supply of power is more important than spending money for meeting the RPO compliance and many State regulators have been giving them you know, carry forward and all those things. But looking at the price, I think now states are becoming active. And also what we understand that MNRE and BEE they are also (becoming stricter) because now this RPO compliance is coming under the Energy Conservation Act. So they're also now going to take strict actions and they're also considering to have a penal provisions for non-compliance. So, it is expected that this compliance market will improve significantly and going forward what you are saying that 70 lakh can become 1.4 crores, yes it can and it will.

<u>Participant 2:</u> Yeah, because otherwise the backlog will just keep increasing. And just a quick question, you know, coal is not as a homogeneous commodity like you know, gas or electricity you know. So how do you basically trade a contract where there could be disputes on the actual GCV and Sulphur content and so on?

<u>SN Goel:</u> Yeah, I think coal is definitely not like electricity or gas. It is not a homogeneous contract and transportation issues are also there, but then we will find out solutions for that also. One is that there is at the moment third party sampling, which is accepted by everybody. So, that will be the criteria for dispatch of coal – that whatever is the third-party sampling results that will be binding on the buyer. And second is railway transportation and in addition to that road transport. So these models will be considered. So, we have ideas in mind how it can be done. We have also appointed consultants who had worked in the coal sector. And just to understand about the coal market in the country, how to create a market, we are working on this. So as and when there is opportunity, I'm sure we'll find out solutions to all these problems, and we'll be able to launch a coal exchange.

<u>Participant 2:</u> Last quick question on IGX. The volumes in Q1 even though they are higher on a year-on-year basis, the run rate is still lower than FY 23 peak. So, why is it the volumes actually came off from the FY 23 Peak and what is required to get it back?

<u>SN Goel</u>: One of the reasons was that demand from the power sector was high this time and power sector also contributed significantly to this volume increase. And secondly is in any case, volumes on the IGX platforms are very small at the moment. So every year you will find that there is a growth in that volume. So 40% of the volume which was done on the IGX platform was from the power sector I believe.

#### Participant 2: Thank You Sir.

<u>Participant 3:</u> Thanks for the opportunity. So, for IGX we mentioned you know, in next five years, we expect it to be IEX equivalent. And even when we look at IEX scale up since the initial days in 2008 to 2013 it was pretty fast, whereas for IGX, that has not been the case. What do you think are the constraints, which if it gets resolved by the government can lead to a faster scale up.

**SN Goel:** See in case of electricity, fortunately, all market enables were in place, when we started the power exchange. We had a regulator in place, we had open access provisions in place, transmission company was an independent company, and open access regulations were in place. Then in power, there is no tax on Interstate transactions. So, because of that, it was possible to do transactions through the exchange and we could see significant volume growth. In gas unfortunately, there are a few problems. One is that gas is not under GST. So, each State has its own taxation mechanism. And these taxes are ranging from 3% to 26%. So, we have to do fragmentation of market, we have to create different hubs depending on the taxation of the States. So, that is one issue. You can't have standard contracts, you know, that is the USP of the exchanges. Second is, even today, we have the same gas pipeline operator and the gas trading operator. So, that is another issue, which is there in the market. We have been advocating with the Government that gas pipeline operators should be independent bodies, so that gas pipeline allocation can be done in a transparent manner as has been done

in the power sector. These are some challenges. So I'm sure Government is working on them. GST is definitely one thing we are hearing that gas definitely will come into GST and come will come very soon. Gas transportation system operator, this issue was also discussed earlier. And in fact, there was a news that they are going to create a Government company which will be owned by maybe these PSUs that will be operating the gas pipeline network. So all these things are there in the news, let's see when that happens. But in spite of these challenges, I must say one thing that IGX has done good volume growth. And in between, there was a dip in the volume because of the very high increase in the gas price. You know, when the Ukraine war started, gas price increased to \$25 per MMBtu to \$30 per MMBtu. At these prices, India cannot afford that LNG gas. So the volumes had reduced in India. But now since the prices have come down, I'm sure volume should pick up again.

<u>Participant 3:</u> And any latest update on MBED and market coupling, from your communication with the government on implementations. Where they are right now?

**SN Goel:** MBED word I'm hearing after a long time, I think it is a couple of years. So MBED is no more in discussion and market coupling, yes, market coupling also from the last four-five months, there is no discussion on that anymore.

Anyway, let me give you a brief update on that. CERC came out with a discussion paper sometime in the month of August (last year). And then there were comments by the sector participants. Most of them, more than 75% suggested that there is no need for market coupling. It will not provide any value, it will not add any value in the market. The need is to bring more liquidity in this market. And based on all these suggestions CERC on 6<sup>th</sup> of February had issued an order. And in that order, I'm sure you must have read that order CERC has mentioned that they did simulation for three months data. And by doing plain vanilla coupling of RTM market or DAM market of the three exchanges, there is no benefit. In fact, there was hardly any difference in the cleared volume increase or the price reduction. There was negligible impact in the social welfare increase. And they have concluded that there is no benefit by coupling the three exchanges either in the DAM market or the RTM market. And it is true also because, one of the exchanges, if it has 99% market share, what advantage will you get by coupling. But, they further said that to bring more liquidity in the market and to create some optimization in the market can we couple the RTM market along with this SCED market. And they have directed NLDC to develop the software in two-months time and then do the simulation for four months. And based on the simulation results, they will take a call whether there is any benefit in that and can it be done? Should we go ahead with that or not? And even for doing that, what are the challenges?

So, all those things will be considered before taking a decision. As of now, what we understand is that six months have passed and because in the order they had said that given the simulation is done, the results should be hosted on the website every day, so that participants can see that and analyze that. So far that simulation study has not started. What we understand is that NLDC is in the process of developing the software for RTM market and they are doing the fine tuning on that. Thereafter, the software to couple the RTM and SCED will have to be developed. And for developing that you will have to define the logic how the coupling is to be done. And software development is not that easy an process, it takes a lot

of time. So it is going to take time and after the simulation, then CERC will take a call whether it's to be done or not.

By the way, let me also, since you raised this point, I would like to say two things about this. The SCED market. SCED is basically operated among that generating companies which have long term PPAs. So under the Long Term PPAs all those generators are assured fixed charges, under the PPA. They get coal under the allocation route, which is at that the administered price. And in the SCED market, the un-requisitioned power is optimized, costly stations are backed down, and cheaper stations have ramped up. That is how the optimization is done in the SCED market. In the RTM market, the generators who participate are merchant generators., they have to recover their fix charged also in this RTM market only and also they have to purchase coal from the e-auction route where the rates are higher. So, I think these are two different set of generators. Can we really do coupling of these two different set of generators? This is a question which we may have to, I mean, when CERC takes a decision, they will have to also think about these kinds of implications.

So, and then, after that, there are many challenges in implementation of this. The physical settlement and the financial settlement under the RTM and the SCED market is very, very difficult. Because in the SCED market, you have all these generators who have the PPAs. You can see almost about 60,000-megawatt capacity is there and in the RTM market all the merchant generators are there, the market size is only about 100 MU (daily), whereas number of participants are huge. So financial settlement between them is going to be another challenge. I think there are many issues. So let's wait and watch. I don't think there is any big merit in doing coupling of RTM and SCED market, but in due course of time and once the simulations are done, and all these issues are deliberated, then a decision will be taken. And another point is, you know in the SCED market, it was basically optimization of the URS power. Now, Government of India has already issued a rule. They have amended the Late Payment Surcharge Rule where they have directed that all generating stations have to offer the URS power on the exchange platform. Otherwise, they are not entitled to the fixed charges to that extent and that is the law of the land. All these generators have started offering some URS power on the exchange platform. So, a good part of the optimization which they were doing in the SCED market has already started happening in the RTM market and the Day Ahead Market and so, the opportunity of having further saving is reduced. So, I mean looking at all that, I don't think there is a strong case for any coupling.

<u>Participant 4:</u> Sir, Devesh here. A couple of questions from my side. Firstly, when you talked about market share, within TAM segment if you can help us understand is there a difference in the market share between DAC volumes and the LDC volumes. And tomorrow, when longer term LDC volume starts to come, would IEX have any advantage over the other exchanges?

**Rohit Bajaj:** Yes, so, in the three months segment particularly, our share has been always more than 50-55% plus, we have been maintaining that. And why? Because large set of generators are our members, all the generators who are there in the country they are our members, and these (auctions) are purely done on merit basis. There is more participation in reverse auction, prices are more efficient and then the final price discovery happens and then they take call on going for scheduling that power.

So, we feel that our market share, we are going to be the major player in that segment. But yes, that share cannot be 90% or 100%, as we have seen in case of collective transaction. There are other exchanges also where they will also see some participation and share will get distributed, but we aim to maintain 60% plus market share in 11-months Longer duration contract.

But if I talk about DAC and intraday, the smaller segment, there the competition is you can say is really too much and they want to go to platform, the participant they want to go to a platform where the liquidity is less. So, what they do is where liquidity is less when the buyer and seller are going there, they could match themselves and then supply can schedule on the basis of their requirement. So 11 months, first of all the opportunity size is very big. 40BU opportunity size which is currently being done on the DEEP platform. we should be able to capture large part of it and aim to get more than 60% market share in that.

<u>Participant 4:</u> And you also talked about Green power being one of the growth driver for you. But in the past, we have seen variability in green power. There were years when the green power had declined significantly on the exchange platform. It has come up now again. What has been the reason for this?

Rohit Bajaj: Yes. So, this is very relevant. We have seen a dip for almost more than a year. There was a time when first year we did good and then after that there was a sharp decline in the green segment. That happened because that time all the sellers were actually distribution utilities. Seller on exchanges were Telangana, Karnataka and somewhat Tamil Nadu. So, these three states were participating as a sell and there was lot of demand or earlier also in today also. But suddenly what happened last year when our overall demand grew by 7.7%, you must have seen states like Karnataka, their demand actually increased by 25%, Telangana increased by 15%. Many of these States they were not able to meet their own demand and they stopped selling. So, last year, because all the RE rich states, those who were selling earlier, they stopped selling and our volume went down. But this year what we are seeing is the increase that has happened it is not only because of the States coming to participate, it is more because of IPPs coming and selling. So, today a lot of generating stations where they have early commissioning, they are selling, some of the generating stations where they have merchant power they are also selling. So, first quarter there was none of the States that were coming as a seller, entire growth that we have registered is all because of IPPs. Now, when I say that we have done 44 million unit today, there, there is some part which has come from State also. So going forward as the State supply situation will improve. We expect State will also participate, and IPP participation will only increase. There is about 2,700 megawatt which we are following up where this is purely on merchant route, this will also get commissioned in less than six month's time. That also we are seeing as a good supply potential. So we are very optimistic about green segment as such. We expect lot of sell volume would be there and there is no dearth of buying. Everybody is interested in buying green power, because by paying 10,20, 30,40 paisa premium, if they are getting Green power, they are meeting their RPO obligations and then using this for so many different purposes.

<u>Participant 4:</u> And lastly Sir, you did mention about different technology, different OTC contracts coming up, or different newer technologies coming up, which is kind of flattening

the demand curve through the day. So, there was earlier, we used to have evening peaks and now, we also see demand kind of peaking through the day, right. So, there is basically a flattening of demand curve that is happening. Now, I understand that for exchanges the volatility between the demand peak and trough used to drive the volumes. So, does this flattening of demand curve, can again lead to signing of PPAs by SEBs or impact the Volumes growth for the exchanges?

Rohit Bajaj: Yes, very relevant point. Diversity is always good for power markets, if there is some peaks and troughs then people will participate to meet that. So, what I meant was, there is already a lot of huge diversity. I shared one graph with you where there is more than 25,000 (MWh) power available during the daytime and very less available in the peak. And there is so much demand during the evening hours. So, now, if we start to flatten this curve, so, there is line at this level and if you start to flatten this curve probably, we will end up somewhere which is 20-30% higher, which is a straight line but 20-30% higher than where it is today, right. So, flattening means we are trying to bring excess supply which is there into some areas where there is so much demand, so we are trying to meet that. This particular phenomenon where so much diversity currently exist, if we can flatten it, there would be definitely increase in the overall cleared volume. But again, because of these technologies, the troughs and peaks will still be created going forward. It is not that if we are changing or bringing everyone together the flattening will happen and it will remain like that. There is one effort which is going in the direction of flattening it and there are some natural tendencies where peaks and troughs are created and what we are trying to do is that we are trying to leverage these peaks and troughs and trying to maximize the cleared volume.

### Participant 4: Perfect, thank you Sir.

**SN Goel:** So, in fact, you know, variation in the demand and supply on the seasonal basis will continue to happen. And second is even if the demand starts shifting during the peak time, daytime, the morning and evening demand of the commercial sector and industrial sector will continue to remain. So, if we have storage. In fact, you know what we have seen is that storage will purchase power during the daytime that is one transaction and will sell that same power in the evening hours. So, the transactions will multiply. That is, they're going to provide a bigger opportunity for the exchange. In the process of flattening the demand also there will be a better opportunity for us.

<u>Participant 5:</u> So, as you have the highest market share still in this segment, you also have a lot of data pertaining to exchanges, to price discovery and things like that, which I'm sure you are leveraging for your customers. Is that something that has a lot of commercial viability, where that can help you gain market share? So, basically providing the data that you have to your customers for better price discovery and to make better power purchase decisions. Is that something that you think in the long run will help you gain market share?

<u>SN Goel:</u> Now, as far as data is concerned, power sector data is transparently available to everybody. We do not have any additional advantage because of that. But our business development team and strategic team they do a lot of data crunching analysis of the data, interaction with the States to understand their requirements, and how can they take

advantage from exchange transactions. That is our USP and that is how we get the customers on the exchange platform. You must have seen a couple of articles on how Andhra Pradesh this during the COVID time they did large purchase from the exchange platform and optimized, saved almost 2,300 crore rupees by purchasing power through the exchange.

Similarly States like Telangana, States like Himachal Pradesh, States like Uttarakhand, DVC, West Bengal, they also have made a lot of savings. So, you know, we interact with them, we tell them how they can use the exchange platform. So, that is the way we do it.

#### Participant 5: Thank you

<u>Participant 6:</u> Sir, just one question I have. In the past few months, we have seen that there is a difference between the cleared volume and the final scheduled volume, almost 2to 3% is being lost. So, are we facing any kind of congestion or curtailment? And do you think that this problem can increase or decrease going forward some comments on that?

<u>SN Goel:</u> Yeah, this is happening from 17<sup>th</sup> of June precisely. Northern Region there is a very high demand because the climate is slightly hot and humid rains are still not there. And Western region we had good rains, in Southern region we had good rains, so demand has reduced. So a lot of power was flowing from West to North. And that led to outage of Champa-Kurukshetra 6,000 megawatt HVDC line one day and that could have resulted into grid disturbance. But fortunately, because of the very prompt action by the Grid operator, the situation was saved. Now they have become slightly cautious. And that is why we are seeing some congestion, particularly during the night hours, and the demand is high in the Northern region (during that time). But I think now the rains have started and demand is going to at least moderate. So this congestion will go away. This is a short-term congestion.

<u>Participant 7:</u> I just have one question. So more of a technical kind of question. So how does that demand match happen? Like? I mean, one state has surplus power, and comes on your exchange and another state needs that power. And that's how the trading takes place. But is it exactly I mean, it's entirely technology driven, or there's some kind of manual intervention also, when you do this demand matching,

**SN Goel:** It is all technology driven. See we have in the Day Ahead Market, we have more than 500-600 participants who participate here. They submit their bid during that particular morning slot of 10 to 11 o'clock and then the matching has to be done within a short time, and details need to sent to the NLDC. So these things cannot be done manually. This is all technology platform doing it in the auto mode, all these things. if you want further interaction on that, I'll be happy to do that. Mr. Amit Kumar, who is heading the Market Operations and Technology he will explain to you, but you will need good amount of time to understand that part of it.

**Aparna Garg:** If you don't have any further questions, we request you all too please join us for the networking dinner. Thank you, everyone.

**SN Goel:** Thank you and we can have more questions during the networking, dinner and the snacks.