



## **Transcript of 20<sup>th</sup> Annual Analysts and Investors Meet held on 29 July 2024**

**ED (Finance):** Ladies and gentlemen, it is my privilege to welcome you all for the 20<sup>th</sup> Annual Analysts and Investors Meet of NTPC Limited. Our Company, under the visionary leadership of our CMD and the Board of Directors, has stepped up with the expectations of our stakeholders and has reported multifold progress in our operation and financial performance. But what can we do further to realize more value for our shareholders?

To discuss this, today, we have the Board of Directors with us, led by our Chairman and Managing Director, Shri Gurdeep Singh Ji, who has an illustrious career spanning over three and a half decades in the Power sector. He started his career in 1987 with NTPC and has worked his way through both public and private sectors. His wide-ranging experience, entailing all aspects of power sector in different organizations and cross-cultural environment has provided him with the unique ability to deal with intricate and complex issues of the sector. He has positioned NTPC at the forefront of energy landscape and has started many initiatives to transform NTPC from merely a thermal power generating company to a sustainable integrated energy company.

On his right is Shri Jaikumar Srinivasan, our Director (Finance), who has three decades of illustrious career spanning power and mining sectors in the field of Finance, Accounts, Taxation, Commercial, Electricity regulations, Renewables, IT and Project Development, etc. Shri Srinivasan also looks after the Commercial function in NTPC and currently holds the additional charge of Director (HR). The Company has sustained its profitability and has exceeded the street expectations in the last year under his dynamic leadership. His relentless efforts and dynamism have resulted in further consolidation of our financial and commercial position.

On the right of Director (Finance) is Shri K S Sundaram, our Director (Projects), who joined NTPC as an executive trainee in 1988 and has more than 35 years of diverse and versatile experience in projects, as well as commissioning stages of greenfield and brownfield power projects. He also has experience in operating and maintaining a vast fleet of power stations. Shri Sundaram was actively involved in the development of first Super Critical Power Project of NTPC at Sipat. He is a professional with both corporate and site

experience, people-oriented approach, knowledge and experience of the entire power sector and works towards the speedy implementation of projects.

On the left of CMD is Shri Shivam Srivastava, our Director (Fuel), who joined NTPC in 1988. He also has about 35 years of experience with outstanding contribution in areas of fuel handling, fuel management, safety, plant operation and maintenance and in coal mining projects. He has been instrumental in ensuring fuel security and building self-reliance in coal supply to power projects of NTPC. As Director (Fuel), he is responsible for ensuring fuel availability and security for generating stations along with development and safe operations of the captive coal mines of NTPC.

On the left of Director (Fuel), we have Shri Ravindra Kumar, our Director (Operations), who joined NTPC as an executive trainee in 1989 and has more than 34 years of diverse experience in Commissioning, O&M, Engineering and Project Management. He was actively involved in development of first Supercritical Power Project of Bangladesh, India Friendship Power Company Limited. He is a professional with both corporate and site experience, people centric approach and experience in the entire power sector.

With that backdrop, I would now request CMD to begin with his opening remarks and set the tone of this meeting. Thank you, Sir.

**CMD:**

Thank you, So, welcome to this 20<sup>th</sup> Meet. I think we had advanced this by two days. Normally, it used to be on 1<sup>st</sup> of August. We had the last Board Meeting on Saturday so, that's the reason without waiting for 1<sup>st</sup> of the August, we are here with you. So, as Mr. Dar just mentioned that we had been trying to improve on all fronts, whether it is operational, financial and now, all of you will be knowing that the power situation across the globe, energy requirement across the globe is on the rising trend. And we are, as a country, I think we are on the forefront of that. And we are registering, I think, one of the highest demand growth globally. And when it comes to meeting the power requirement as the leading power company as we are meeting almost one fourth of the total supply to the country. So, we had challenging time to arrange to meet the sudden surge in 2021 post-COVID. And thereafter, as you will be knowing that even during the last summer when we were having some apprehensions, we had been able to manage without any problem. This provides the unique situation that the demand growth is continuing and that is providing enough opportunities for the growth to the Company. And as you will be knowing that Government of India, Ministry of Power, they review and it is

decided that in addition to the renewable energy, we will require some of the thermal capacity also and that will be to the tune of around 80 gigawatt. And out of that 80 gigawatt, NTPC will invest in 26 gigawatt. Out of this 26 gigawatt, as of today, we are having almost 9.5 gigawatt under construction. Around 8 gigawatt is in the tendering process. And rest of the capacity, we intend to award by the time when we are going to meet next year at this place. So, by the time, we are meeting again, we will be having 26 gigawatt under construction. Out of that 26 gigawatts, there will be some capacity, which will be commissioned - around 2 to 2.5 gigawatt will be commissioned. So, it's approximately 24 gigawatt on the thermal side that will be under construction at that point of time. That is what our plan is. In addition to that, we will be having our ongoing renewable energy plan what we had already shared. And let me take some kind of caution here that whatever we have declared on the renewable side about our IPO. So, I'll not be discussing anything on that front. We will be sharing with you in the next couple of months. And there will be a detailed discussion on that once the right time is coming on that. In the recent budget, you would have observed that there are two things, important things, which have come. I'm sure that there will be questions on that. One is advanced ultra-supercritical along with BHEL in a joint venture as a development project. And the other one, the most important, is the developments which are going to happen in the nuclear power, nuclear energy. We had been working on the nuclear. Our first nuclear power project in Mahi Banswara in Rajasthan is likely to take the activities of groundbreaking in next two months. That is, as you know, that is joint venture with NPCIL. NPCIL is the lead partner; 51, we are 49. But I'm happy to share with all of you that we have already decided to make NTPC Nuclear Power Company, which will be 100% subsidiary of NTPC. And we are looking forward for different sites in different states. And we would like to replicate the kind of success what our team has been able to demonstrate in case of thermal; the similar kind of success in the nuclear, which will be providing the base load power over the coming decades. We are working on the decarbonization or reducing the carbon footprint in many ways, we will share. I think, there will be a detailed presentation, which Director (Finance) will be covering. But just I wanted to give you some kind of overview in this. I would not like to get into the numbers at this stage, because Director (Finance) will be, as I just mentioned, will be going through the details and then we will have time to discuss. A few things, salient points, as you will be knowing that we had been able to realize our dues from the distribution companies. LPSC is helping almost every generator now. But we had been able to do that before this and we continue to realize our all billing. Rating agency, Fitch has raised NTPC stand-alone credit profile to bbb from bbb-. And

as you know that our credit rating is at par with sovereign. In fact, this stand-alone profile can be termed as a notch better. But as we can understand that this is now as per our sovereign ratings. All of you would be knowing that from 1<sup>st</sup> of April, the new CERC norms for the next 5 years have come in effect. And I'm sure that all of you would be reasonably satisfied. But I think, there should be a reasonable satisfaction to each and every one, who is closely following the sector. This is a forward looking, reassuring (regulations) and will be able to help to maintain our profitability and cash flows for our very ambitious capacity addition program, while maintaining the dividend, because I'm interacting with the investors and the analysts. So, the dividend is the important part along with the growth. So, both of them will be taken care. On the coal situation, which has been a concern most of the time. At this point of time, let me share with you that as a country, as a company, we are having approximately 20 days stock. And our coal production last year, it was around 35 million tons; this year, we expect to cross 40 million tons. In addition to that, let me share something, which should be of quite good interest to almost everyone that now there is some production has started from the commercial coal mines. And we are going to source some of the coal from the commercial mine through an open and transparent bidding process, so that should reduce and ultimately eliminate the requirement of the imported coal. So that's another important aspect, which I wanted to note. New projects, as I just mentioned that we had already awarded some of the projects. The tendering process is going on. And maybe, I think then in next one year, we should be able to award the rest of the capacity to reach to the 26 gigawatt. So, I don't want to just get into the stock side, which is, again, I think you people are aware and you are following whatever I can follow. PLF, I think we are almost now touching 80, which is quite a good news that there is enough demand. Last, we had added 3,924 megawatt capacity. And today, we are 76 plus. By the time, we are meeting next year, it should be 80 plus, if not more. Another important thing, which I must share here that our subsidiary company, THDC is likely to commission in next fortnight, the much-awaited pumped storage project that is a 1,000 megawatt. So, the pump storage is also being talked about. So, we will be able to commission that, which has been going on for quite some time. But we will be able to commission that in next fortnight. The work is going on the full swing on that. On the ESG side, through our practices, through our initiatives, both on the measures and the impact of the CSR, NTPC's ESG score has been upgraded by two levels. And we had come to at present to C rating in '23. Our actions will continue to further improve on this. To create additional carbon sink, we have planted more than 1 million trees in the last fiscal year. Additionally, we are undertaking the Green Credit Program of

Government of India for the eco-restoration of the degraded forest land on the voluntary basis. The CSR initiatives in the different areas are continuing, including our flagship program of Girl Empowerment Mission, as well as sponsoring archery. We all know that we have adopted archery as one of the sports, which has been performing quite well. Thus, we are quite happy to be associated with archery. Our commitment towards the high standard of the corporate governance is recognised by the Gold Award for the Annual Report at the Corporate Governance Disclosures Competition 2022, recognised by South Asian Federation of Accountants. Additionally, the company's internal audit department was honored with the Internal Auditors of the Year award at Fifth Audit and the Risk Summit Award. NTPC was awarded with the Best CFO award by ET. So, we can congratulate the CFO and Director (Finance). And I would like to share one more, which is quite prestigious that seventh time, we have received ATD BEST Award, which is international award, which showcases our excellence in the talent development, NTPC is also certified as the Top Employer 2024 in India by Brandon Hall Group. So, we had been putting our all efforts in all sides and we are working towards the brighter future.

Before I start, before I rather request Director (Finance) to make the presentation, I did mention about the nuclear thing. I did mention about the coal side and the renewable side. Renewable means I think most of the time, we take it as solar and wind, and storage. I think that is the most important thing, solar, wind plus storage. Our two companies, the subsidiary companies, NEEPCO and THDC, both are undertaking hydro projects. You will be knowing even NEEPCO in the North Eastern part, in Arunachal, we are starting three new hydro projects namely Tato-I, Tato-II and Heo in this year itself and another project by next year. So, with the total capacity for NEEPCO will be 2,626 megawatt for the new hydro projects. Similarly, THDC is also undertaking new projects in addition to what is at their hand. So, put all together, there is a huge amount of new capacity addition, which we are undertaking and we have at our hand new projects, as soon as possible. So, our CAPEX projections by 2032, what we had been saying in some of our business plan as per that, today if you start calculating, it will be approximately ₹7 lakh crore. We are creating a future-ready workforce through our reskilling, redeploying and hiring talent to meet the evolving business needs. With this, let me take a pause here with my initial comments and request Director (Finance) to make the presentation and then we can take up the further questions. Thank you.

**Director (Finance):** Thank you, Sir. Good evening and welcome again. In our presentation, I would broadly give you an overview of NTPC and then delve into the following key points, which are the key factors and imperatives driving our growth, our strategies and roadmap for energy transition, focusing on energy security and sustainability, excellence in operations and project execution, coupled with strong financial performance. NTPC, the largest power generator in the country is the mainstay in meeting the nation's energy needs and driving economic growth. Recognizing the emerging energy trends and opportunities, our vision is to become the leading player in the global energy landscape. We will achieve our vision by adhering to our core values, which are Integrity, Customer Focus, Organizational Pride, Mutual Trust and Respect, Innovation and Learning and Total Quality and Safety. As you can see, we have a pan-India presence, which helps us to mitigate several operational risks associated with operating within a limited geography. With an installed capacity of 76 gigawatt, NTPC Group generates 24% of the nation's electricity with a 17% share of installed capacity today. Our added strength being the proximity of our power stations to coal mines, resulting in lower energy charges and competitiveness. India's GDP is expected to continue growing at a robust pace in foreseeable future. And the energy demand is expected to move in tandem as projected by the CEA. Fast urbanization, India's demographic strength, rapid strides towards becoming a global manufacturing hub and 100% access to electricity achieved in the country; all this will drive substantial growth in the sector. The energy requirement is set to grow from 1,626 billion units to 2,474 billion units by financial year '32, and further on to 3,776 billion units in the financial year '42. Peak demand on the other hand presently at around 243 GW will reach to 366 GW by financial year '32 with a CAGR of 5.25%. Even this estimate is slated to be revised upwards with peak demand already touching 250 gigawatt in the current year. The annual per capita electricity consumption, which is some kind of indicator of the development, presently at 1,300 units is expected to touch a level of 3,000 units by Financial Year 2040. Above drivers set the stage for the power sector in India to thrive. And NTPC is fully geared to seize the huge opportunity that India growth story offers. Our corporate plan outlines a clear growth path, aiming to become a 130-plus gigawatt company by 2032, of which 60 gigawatt plus will be added as RE capacity. Four gigawatt of commercial capacity was added in financial year '24. Close to 21-gigawatt capacity is currently under construction and further 26 gigawatt is in advanced pre-construction stage. We are consistent in operational excellence, much above all India average in terms of availability factor and PLF. Financial year '24 saw our highest ever generation, profit and revenue realization. With a clear focus on ESG, we are consistently progressing on all defined

KPIs. Coming to our key growth pointers. NTPC's size and capabilities forms a major strength, which will drive the Company's growth engine to achieve its ambitious goal of becoming a 130-GW plus company by 2032. You can see the fuel mix, coal technology mix and how much of that is coming directly from NTPC and the Subsidiaries & JVs. Furthermore, the geographical spread of the projects across the country helps in reducing the overall execution risk for us. So, there is a clear visibility of growth with various projects already under advanced stage of execution, 7 gigawatt of conventional and 16 gigawatt of renewable energy capacity is expected to be added in the next three years. We have awarded 4.5 gigawatt thermal capacity in the last two years and expect to award another 15.2 gigawatt in the next two fiscal years. Through ramping up of our captive coal production, we aim to produce 25% of our own requirement by Financial Year '30, ensuring better fuel security for the Group as a whole. Our commitment to environment will be evident in our huge investment in flue gas desulphurization units in all of our coal-based plants. FGD has been commissioned in thermal units of 13-gigawatt capacity and will be commissioned in balance 54-gigawatt over the next three years. Our hydro subsidiaries, NEEPCO and THDC are also ramping up their CAPEX and are expected to execute 12 gigawatt of non-fossil based capacity at an estimated cost of around ₹75000 crore by FY30. NTPC's multiple revenue streams is set to grow steadily fueled by the substantial capacity addition undertaken. Similarly, we expect our regulated equity to grow at a double-digit rate in near term, driven by projects already under implementation. Under the guidance of an experienced and focused leadership team, we are confident in our ability to deliver up to expectations of our stakeholders. Now we turn to our strategies towards leading energy transition and energy security. Our vision for 2032 is to broad base our energy portfolio and to transform into a diversified energy major with the portfolios of clean, green and affordable power with presence across the value chain. The culmination of all these strategies will significantly broaden our revenue streams. As we work towards a carbon neutral economy, we envision an integrated energy spectrum comprising renewables, nuclear power, green hydrogen and chemicals, green mobility, energy storage and waste to energy initiatives keeping low emission thermal power generation at the core maximising the use of low carbon fuels, biomass and adopting carbon capture and utilisation through our following endeavors, which is the commissioning of first green hydrogen blending into Piped Natural Gas project and building the pilot projects for synthesizing green methanol and also setting up the first green hydrogen mobility project at Ladakh. We have also entered into an MoU with Indian Army for setting up green hydrogen projects in its establishments. We have also signed

various agreements and MOUs for developing green chemical and green fuel. Our group is also setting up a green hydrogen hub near Visakhapatnam in Andhra Pradesh. Thus, we are committed in our approach towards developing the entire green ecosystem moving towards the net zero. Inspired by the circular economy, we are focused on eco-conscious power generation, integrating wide spectrum of energy value chain as depicted on the screen. We are consistently reducing our fresh water requirement by utilizing alternate water sources such as wastewater, rainwater and desalinated seawater. We are reducing carbon footprints by maximising usage of biomass and other green fuel in our thermal plants. We are continuously upgrading technology in mining and power generation with increased operational efficiency. Our thermal plants are getting increasingly resilient for greater RE integration through flexibilization. We are also actively working towards utilisation of entire fly ash generated for various infrastructure building activities. Sustainability has emerged as both an imperative and challenge for global energy companies, balancing the huge energy demand with environmental concerns. NTPC has formulated a comprehensive sustainability strategy called Brighter Plan that includes well-defined KPIs and targets. To further our commitment to sustainability, we are actively working on achieving net zero in our townships by next fiscal. We have avoided 58.5 million tons of CO<sub>2</sub> emission in the last five years. Through our concerted efforts and firm commitment to sustainability, NTPC will be serving as a model for responsible and cleaner energy production. We have been steadfast in our commitment to corporate social responsibility by continuously allocating 2% or more of our net profit towards CSR activities since many years. During FY24, the company spent a sum of ₹255 crore towards various CSR initiatives with focus on health, sanitation, safe drinking water and education, etc. Within CSR, the company has a special focus on girl empowerment, striving to empower girls in the project vicinities and make them self-reliant and confident in all aspects of life. Select set of girls are also being provided with free education up to the Class 12<sup>th</sup> level. Furthermore, NTPC is contributing to the development of archery sports, as mentioned by CMD, from the grassroot level by providing support to the Archery Association of India. Through its CSR initiatives, NTPC has made significant impact on the lives of approximately 16 lakh people, positively influencing human development in remote locations. Now, moving to the operational aspects. NTPC's operational efficiency over the years have been consistent through best maintenance practices. We have achieved highest ever group generation of 422 billion units in the FY24 with a growth of 6% over the last year while maintaining consistent lead over all India PLF. Growth in generation continues with 10% increase in Q1FY25 to 114 billion units.



Robust payment security mechanism has proven highly effective in ensuring timely and reliable payments from customers and control on managing trade receivables. Strong payment trend continues with realization of trade receivables in 31 days as against the norm of 45 days. We have signed long-term fuel supply agreements with both CIL and SCCL for reliable supply of coal. We also source coal through bridge linkages, captive mines and e-auctions, further diversifying our sources of coal procurement. Imports are also resorted to sparingly if necessary. Negotiating single ACQ from CIL has led to optimum utilisation of coal and better stock management at our power plants. We have achieved assured coal supply of 92% Annual Contracted Quantity during FY24. Coming to coal mining. Our coal mining group has an impressive asset portfolio, comprising of eight coal mines with peak mining capacity of 86 million tons per annum. The company has demonstrated remarkable growth in coal production, producing 34 million tons of coal in FY24, which represents a steep 48% year-on-year growth. Looking ahead, we have planned to fulfill a minimum of 25% of our coal requirement through captive mines by FY30 for fuel security, also supplementing some of this through the commercial mines that we are developing. In addition to the above, Amelia mine owned by THDC having a peak mining capacity of 5.6 MTPA will also be added thus taking the total group peak mining capacity to 91.6 million ton per annum. On the new business development front, in response to dynamic times and moving towards our diversification goals, we are actively pursuing new business opportunity both domestically and globally. We have ventured into nuclear power with 2.8 gigawatt capacity project under active consideration for award in Rajasthan. We are also exploring small modular reactor nuclear technology, which showcases our commitment to innovation. We marked our international presence by commissioning our first overseas thermal power plant in Bangladesh of 1,320 megawatt. Further, we are developing a 50-megawatt extendable to 120-megawatt solar power project in Sri Lanka. We have also been appointed as project management consultant for several solar projects in Latin America and Africa. NTPC has a People First approach towards employees. We believe in continuous development of our employees and provide comprehensive training to employees on technological advances and latest operation and management practices. Our key employee performance metrics like sales per employee, value-added per employee, profit per employee and man megawatt ratio have shown consistent improvements. NTPC continues to win all round laurels in various fields of operations, corporate governance, internal audit, quality, HR, CSR, safety etc. NTPC takes pride in its work culture of high trust and high performance.

Moving to the financials. NTPC's financial performance, as you can see, has been remarkable, exhibiting sustained growth and robust profit levels over the years. In FY24, the company achieved its highest ever profit of ₹18,079 crore, showcasing our strong financial management and operational efficiency. The momentum has continued into FY25 as well with company posting strong financial results for Q1FY25. The profit after tax for Q1FY25 stood at ₹4,511 crore, reflecting a substantial 11% growth, compared to the Q1 of the last year. Our consolidated financials have also exhibited consistent growth driven by a strategic investment in value accretive joint ventures and subsidiaries. Group's performance in FY24 saw significant growth with a remarkable increase of 25% in the group profit. The group's EBITDA also experienced a double-digit growth, signifying our ability to generate strong operational earnings and manage our financials efficiently. Our balance sheet size have been growing bigger and stronger, demonstrating the company's financial stability and strength. Our gross fixed assets have increased consistently and simultaneously, the CWIP has decreased, thus resulting in better returns on our assets. Our strength in contracting cheaper debt ensures low tariff for regulated business and competitiveness in RE business. NTPC has been consistent in dividend payout over past three decades, thereby balancing dividend yield and plough back for capacity growth. In conclusion, as a leading power generating company, we are well positioned to grow significantly along with nation's growth and development. With this, I end my presentation and thank you all for your attention. Thank you so much.

**ED (Finance):**

Thank you, Sir, for the concise and enlightening presentation. I now invite the participants to interact with the management for next 45 minutes by raising their hands and announcing their name and the organization that they represent before asking the question. I also request the participants to please limit their queries to two. Thank you.

**Mohit Kumar:**

Good evening, Sir. I'm Mohit Kumar from ICICI Securities. My first question is, we are setting up 26-gigawatt new thermal projects. My question is, is it fair to say the entire portfolio will be on cost plus? And the related question is that do you see any challenges to set up this capacity since the EPC vendors, I think, were not active for such a long time. How difficult it is to, let's say, get up the entire value chain to set up this capacity in time? That's the first question. Second is, Sir, what is your aspiration for setting up nuclear capacity on your own? And any comment on the smaller modular reactor will be very helpful. Thank you.

**CMD:**

Mohit, thanks for this question. I think this should really help to explain many of the other questions, which are arising in the minds of most of the people present here. So, the first question is first that is it going to be the cost plus? Is it going to be regulated? Answer is yes and a strong yes. We are not taking any merchant capacity on the coal fired plant. So, total capacity of 26 gigawatt. We are taking the investment decision only after ensuring that all the inputs and enabling contracts are in place, including the power purchase agreement, which is on regulated returns basis. So, I think that is as crystal clear as it can be. Now, the capability to execute, this is one of the area of concern. But at the same time, let me, I think, explain to you that we are the first mover in this. Out of the 80 gigawatt, we are going to have 26 gigawatt. We have either already awarded or we have received the bids or the bids are going on at present. So, in all likelihood, we will be able to award first and try to take the kind of capability in the country through our different vendors and the service providers, including BHEL, that they should take up these projects before any other projects. So, I think, you are right in having some concern on that, but we are mitigating the risk in many ways. And at the same time, we are trying to develop and we are working with BHEL also. I personally keep following up at the Ministry of Power, as well as Ministry of Heavy Industries to develop more and more vendors. And at the later part of the year, we are also looking at if there we can develop some of the additional vendors into this. But yes, that is a factual situation and we are quite confident that we will be mitigating and Director (Projects) and his team is completely geared up on that. Yeah. And we keep trying about whether we have to give the total 10 GW or whether we have to give the BTG or then tomorrow with more vendors. So, we'll go on assessing the situation as it goes along. And we have quite a good, experienced team. And on the talent side, we are specifically recruited also for the project management and some of the talent, which is available in the country itself. I think we are going ahead around with 250 new experienced people they have from the sector, who had been working in the different parts. So, we are trying to develop all kind of strategies and implementing that through the different steps. On the aspiration for the nuclear and SMR, I think this is much bigger and wider scope. But let me try to attempt to give you as much as I can share with you in a few words. Mahi Banswara is going to be in the joint venture. So, that's the kind of first. The next one is that, as I just mentioned in my opening statement, that we are looking forward for the sites in the different states. It includes Gujarat. It includes Tamil Nadu. It includes Chhattisgarh, Odisha and Karnataka. So, we are in talks with almost many states. As you will be knowing that this is not like the thermal plant or the renewable plant, that you can put

wherever. The site has to be approved by the AERB. So, there is much more than a time it takes and it's difficult. We already have the team in place, which is headed by Executive Director. Incidentally, Mr. Pal is here. He is probably at the end of this (gathering). So maybe, I think, you can spend some time after this round of discussion. And what we believe that I think, I mentioned that we would like to repeat the same kind of success story what we had been able to do in case of coal based or the thermal power stations. So, let's not try to put the numbers. But it's not going to be 2 gigawatt or 5 gigawatt, but it is going to be tens of gigawatt. It cannot limit on that. And this is going to be lumpy investment and again, this is going to be the regulated and cost plus. So, this is the response at this stage. Let's see then, I think, the next time, we will be having better clarity that where we have reached. On the SMR side, you would have seen some of the budget announcements that this is BSR, that Bharat Small Reactors. So, this is 220. I think the idea is to have some modifications, and so that you can control the risk and your exclusive zone or the safety zone can be reduced. As of now, it stands about 1 kilometer radius. If it can come down to, let's say, 500 meters, that means it is one fourth of the area which is there. So, there are lot many work which are going on. But at this stage you can just take it granted that already I think the things have started happening. It has taken some time. But now, the things are in place. The Government is pushing towards this initiative now and we will be the one of the company, who will be really taking a major part of this as we had taken in the case of thermal. I hope that satisfies you.

**Mohit Kumar:** Thank you.

**CMD:** Thank you. Okay. Let's go to that side first. Go ahead.

**Renjith Sivaram:** Sir, I am Renjith from Mahindra Manulife Mutual Fund. Sir, is it the right time to go for the renewable IPO? Because we believe that NTPC has a very strong balance sheet. And leveraging on that, we can get cost of debt at the lowest rate. And because of this green venture also, a lot of these ESG questions get answered that we will be moving towards green in the future. But if you move this with the IPO, you are moving it into a different entity. So, the current entity's ESG rating won't it get impacted. And the balance sheet, which we are now able to support for raising funds, once it's an IPO, it's a different entity. So, how will you do that?

**CMD:** Once it is IPO, it's a different entity.

**Renjith Sivaram:** So, you mean, say, even if it's a post-IPO also, we can use our balance sheet strength to get the best cost of funds?

**CMD:** I think let's hear the Director (Finance), who will be able to. But I think we had requested to help us not to ask too many questions on the renewable at this stage. I think that was the request, which was made.

**Renjith Sivaram:** Yeah. No. I'm just questioning the timing of the IPO.

**CMD:** So, you are saying that don't go for IPO, which we have taken a note of it. Yeah. Yeah. What I'm saying is we have taken a note of it. See, I think there is a shareholder for every Company. And there is expectation of the shareholder and there are some policies and guidelines from the shareholder.

**Renjith Sivaram:** Okay. Okay. Got your point. Got your point. Yeah. I think that should suffice.

**Director (Finance):** This question has come despite our pre-emptive statement. So, suffice to say that all this discussion we will have it and address these doubts at the appropriate time. So, I would request the same with others also.

**CMD:** Only other point indirectly, I would like to just share that have confidence. We had been taking the right decisions.

**Puneet Gulati:** Thank you. Puneet from HSBC. My first question is with respect to the upcoming projects. Are you facing any resistance from DISCOMs in ratifying the PPAs that you had signed earlier? And also, if you can talk about what kind of energy cost and project cost, you're seeing in the upcoming projects?

**CMD:** First part answer is no. There are many, who want and have a kind of very good interest from us. There are one or two states, who still feel that they will be self-sufficient. They may not be able willing to come forward. But then there are many others, who are ready to substitute and there are some smarter states, who are saying that if somebody is giving up, I'm there. Okay? So, we should not have then a much problem. But as I said, we take the investment decision after ensuring everything, including the power purchase agreement. Okay? Till date, whatever we are either awarded or the bids are running and we will try to see that the 26 gigawatt is going to be Brownfield expansion, not the greenfield. If at all we are required to do more than 26, then we will review our decision. About the Brownfield, which is already at the existing location, which is developed site, the cost is coming somewhere between ₹10 and ₹11 crore per MW, completed cost. And I think this will start putting lot of

pressure, because many of the companies will not be able to take up many projects. And that is the reason I said that if at all, we are required to do more than 26 gigawatt. And now, you can calculate what is going to be the cost. Probably, in the CERC Regulatory framework, you can easily calculate what it is going to be. We are ensuring that the cost will be on the lower side. The cost is on the lower side, because these all are closer to the mine. So that your energy charges will be less. So, we believe that it will be somewhere in the range of starting from ₹3.5 to ₹5, not giving anything there in it, right.

**Puneet Gulati:** Okay. That's helpful. Thank you. And secondly, you talked about the SMR part. Is there any thought for NTPC to play any role in the hydrogen side as well?

**CMD:** Not some role. We will play a major role.

**Puneet Gulati:** Okay.

**CMD:** We have 1,200 acres land in Andhra; at Pudimadaka, which is near Visakhapatnam, and we are in the process of developing that as a hydrogen hub.

**Puneet Gulati:** Understood. Thank you.

**Manan Poladia:** Thank you for the opportunity, Sir. Manan from MKP Securities. Sir, your slide mentioned that the planned outlay for the 2.8 gigawatt is ₹42,000 crore at 2017 costs. There was a slide about the joint venture with NPCIL. I'm not sure whether I'm confused about that. Because that sounds like a large part of your balance sheet. So, if you could just give some color on what portion of that will come on your balance sheet?

**CMD:** Why there should be confusion in that? So, the reason being, I think this is going to be again, as a regulated, the only difference between nuclear and other fossil fuel or the other projects is that the tariff is decided by the different commission, the Atomic Energy Commission rather than the CERC. That is the only difference. But the returns are similar. These guidelines are almost similar to those kind of things. And we will be 49%.

**Manan Poladia:** It makes sense, Sir. Thank you.

**CMD:** Yes, please.

**Girish Achhipalia:** Hi, Sir. Girish from Morgan Stanley. So, congrats. You spoke about the long-term CAPEX outlook about roughly coming close to ₹1 lakh crore almost per year. My question was, if you

can provide some high-level breakup in terms of the newer areas that you're investing. You already spoke about coal, which is at ₹10-₹11 crore per megawatt. We know the renewable plan at 60 gigawatt. But other than that, any color around green hydrogen, pumped storage, nuclear? Any qualitative number here if you can provide?

**CMD:** Again, thank you. We are giving kind of enough lead to that about the fossil fuel or the coal based I just mentioned. What is going to be the kind of requirement. In that case of nuclear, then again, then I think this is what we were talking about. The major thing will be coming in the renewable side and what our stated objective is, about 60 gigawatt by 2032. And along with that, then as we have already mentioned and its public domain that we will be having the hydrogen hub. In case of, Andhra, we already have the MOU. I hope that it's going to be implemented soon. I myself had a meeting with Honorable CM. And hopefully, I think once the activities pick up there, we should be also starting on that. The other important things are that the hydro projects, which are being undertaken by NEEPCO and THDC, so that is also equally important. We have the mining business, which is not that capital-intensive. Because we follow the MDO route. And then whatever the R&M jobs etc., that will be the minor one. But the major one will be going towards renewable, going towards our new coal based capacity and new hydro capacity, which is going to come through our subsidiary companies.

**Girish Achhipalia:** Sir, secondly, one clarification, this THDC and NEEPCO, you said, 12 GW, I think around ₹75,000 odd crore.

**CMD:** I think this will go more than that.

**Girish Achhipalia:** Yes. So, my question was that when you're talking about the 60 gigawatt renewable target, these two subsidiaries are not included in that number?

**CMD:** No. Yes, you are right.

**Girish Achhipalia:** Okay. Thank you.

**Atul Tiwari:** Yes, Sir. This is Atul Tiwari from Citi Research. Sir, my question is again, on the nuclear. So, what will be the current CAPEX per megawatt benchmark for the capacity that is breaking down?

**CMD:** ₹17 crore to ₹18 crore per megawatt. So, I think, as of today, what is being said that this is going to be almost around ₹17 to ₹18, but the whole cost is also dependent on the gestation period. And we are working with NPCIL and other technology

partners also. And the Government of India is very serious now how to reduce the time to let us say, around five years to start with. So now, it is going up to almost eight, nine, 10 years, and the IDC really goes very high. That is the major component in that. So, this is going to be kind of brought down to that level. That's what the intention is. And if there is going to be the more number of approach, more number of, I think, orders and there will be, I think, the further competition in this area, the cost should remain under control or rather come down rather than going up.

**Atul Tiwari:**

And Sir, obviously, because we don't understand the energy cost part of the nuclear energy. So, what will be the rough energy charges out of it?

**CMD:**

See, it's almost in the range of around ₹7. And ₹7 means you are getting RE-RTC at ₹7, so which is quite competitive. What we are saying around ₹7 means it's going to be in that range even if the cost is taken at on the higher side. Because the fuel cost is still, I think in the range of around ₹1 to ₹2 in case of nuclear. The major part is on the CAPEX side. I don't rule out some kind of detailed discussion at some stage, like there are PLIs, etc. for the different areas, that what are the ways how to really reduce the cost of the nuclear energy in the country. But this is too early to say anything at this point of time. But one thing is very clear that the Government of India is clear that we need to push the nuclear. And when the nuclear is going to come and we had been making our efforts. So, we will play a leading or the major role in that also.

**Atul Tiwari:**

And Sir, last one, if I may. So, will these numbers change materially for SMR, or they will remain roughly same?

**CMD:**

I would refrain to say anything on any number at this stage on the SMR. Because I have discussed personally with almost four, five technology providers. I can't say anything on that, because there are a number of developments, which are happening. There should be, on the lower side, the IDC should be on the lower side on that. So may be, I think the SMR may compete with when we are talking about this. Because that's what the one of the feeling is. And another one is that people are trying, the last time when I had a discussion with the Director General of International Agency for Atomic Energy. So, his viewpoint is that I think we are just some time away from the breakthrough that there will be a lot of mass production will start. And if there is a mass production, whether there will be a kind of shop fabricated or packaged units, you'll start getting as far as the nuclear is concerned. So, as I said, I would refrain to make any definitive statement on that side. Because this is the huge amount of work, which



is going on and every technology developer will try to justify what they had been doing or what they are doing is the best, till I think then it really comes into, installation stage. As of now, hardly, there is anything. So, everything, there is a lot of work, which is going on, on this. What we are doing in the case of the Bharat's BSR is that out the NPCIL 220 MW side, as I explained earlier, that there is some kind of lining if they can provide, which can reduce the risk of radiation and then this can bring down the exclusive zone on that side.

**Amit Bhide:** Sir, Amit here from Morgan Stanley. I just want to understand about the fuel sourcing for nuclear, because there's a shortage within the country. And how do we look at it.

**CMD:** I'll tell you. As far as the fuel is concerned, this is completely under the control of the Government. Okay? Whether it's NPCIL or whether it's going to be us or anybody. I think, this is completely controlled through that and this will be sourced through the government only. There is no other way. So, whenever there is a clearance to the nuclear plant, I think this will be also taken care by the Government that before the clearance is given, there is a certainty of the fuel on that side.

**Amit Bhide:** Right. That was helpful. And so, anything you can speak about the MOUs of PSP or that would fall under NGEL again? The pump storage, can you speak about that or you cannot?

**CMD:** What I can share with you is that we are in discussion with the different state governments to locate the sites, and there is a lot of euphoria. Let me just try to share with all of you about this pump storage also that some of the sites, maybe, people are announcing. But at the end, I think they may be finding it quite challenging to develop on that site. So, we are quite careful on picking up those sites. As of today, we have a site in Tamil Nadu, our joint venture with Tamil Nadu, NTECL has already been allocated. This side, please.

**Swati:** Yeah. Sir, Swati Jhunjunwala from JM Financial.

**CMD:** Okay. Go ahead.

**Swati:** Sir, just two questions. So, first on the Gas PLF. So, this quarter, we had a 23% PLF versus 10% last year. So overall, we maintain a low PLF. Is it a gas supply issue? Is it a PPA issue? If you could highlight on that.

**CMD:** Okay, yes, this is a good news that Gas PLF has gone up from 10% to 23% and that is the indication that there is appetite for the costly power from the gas-based plants. Incidentally, gas

prices have not come to that affordable level till now. But there is a changing scenario in the grid that there are some periods in the year, when there is some sort of higher demand, which we call crunch period, that's what the terminology somebody has really derived. But there are sometimes when there is an excess demand. So, at that point of time, there is Government of India came out with a scheme that we will keep these gas-based assets also on bar, so that there is no problem is faced in the grid, in the power supply. And that is one of the reason that this PLF was higher and more than that, we have now some capacity, which we could really sell in the merchant market. Because the rates were at the consumers or the DISCOMs were ready to pay higher prices. So, we had been able to sell some power in the merchant, up to some, I think ₹16-₹17 rupees. So, I think whatever, you can say that there is a demand for the gas-based projects is also there. And this, don't get surprised that some of the power stations will be having far better PLF going forward.

**Swati:** So, that means this is not, because of Section 11 only. Going forward, we can expect higher PLF?

**CMD:** Yes. If the gas prices remain at this level itself, then if it comes down, then definitely yes. If it goes up, it depends how much it goes up.

**Swati:** Okay. Thank you.

**Sumit Kishore:** Sir, Sumit Kishore from Axis Capital. I have two questions. One is on the technical minimum, at which coal-based thermal power plants can run that has been reduced from 55% to 40% by CEA. Technical minimum has been reduced from 55%, it's been proposed to be reduced to 40%. So, how many thermal power plants of NTPC, you think is it possible to implement the technical minimum reduction to this level?

**CMD:** See, as of today, we have brought our control systems and it was staged by whatever the work was required that we can come down to 55% in every unit, including our first unit in Singrauli, which was commissioned in February 1982. Incidentally, the same thing is not being followed by some of the States and IPPs. And we are taking up with the government, as well as the Grid India and the honorable Commission, the CERC that each and every one should participate. Otherwise, there can be a problem in the grid. I have no hesitation to share with all of you this. And the next level of the 40% can be only talked about once we are reaching to 55%.

**Sumit Kishore:** So, still some time away. The second question is, last week, there was discovery of load following FDRE rates, which were sub-₹5, ₹4.98 in our SECI-FDRE-IV tender. So, what are your remarks in terms of how FDRE rates are coming down associated with wind solar hybrid plus battery storage? I mean, this is not related to NGEL. But at the industry level, how do you see that evolving? And maybe, over a longer horizon, does this become a solution to replicate baseload or load following power?

**CMD:** There is a limited capacity in the country to provide FDRE as of now? Because the hydro is also allowed in that?

**Sumit Kishore:** Yes. But it will take time. Yes, it will take time.

**CMD:** But there are some merchant capacity maybe. Incidentally, we had some capacity in our NEEPCO power plant and we had been trading that power. But the good news is that battery prices are coming down. So may be, some people are taking the advanced bet on the falling price. I hope that they are not going to stuck in the same situation what some of the developer faced the problem in between for the solar modules. Because that has caused some kind of trend to go up. Fortunately, it is coming down again. But one thing is very clear, I think directionally, there is going to be correction in the prices. Because there is a lot of capacity, which has come up online. So, we can start believing that going forward, we should be able to get capacities, which are in that range or maybe around that range. But how much, I think that is going to be question. Because you cannot say that if this is some people like RE people had been saying that it is cheaper than the coal, then why we are required to now add coal-based capacity? If you would have had discussion three years back, everybody was saying that RE is cheaper than the coal? So that means no further capacity is required. But that is not round the clock. That is not reliable. That is not up to that kind of supply level. So, let us see that how the things are. Then, it's coming out. There may be some kind of opportunity what some of the bidders would have availed. But going forward, I think there should be a correction in the renewable and the storage cost. I think this is quite clear.

**Sumit Kishore:** Thank you.

**CMD:** Yes, Madam.

**Gauri Anand:** Sir, I am Gauri Anand from Old Bridge Asset Management. So, my question was actually on carbon taxes. Generally speaking, there is a mentioning in the economic survey. And while we talk about the emissions, the large part of the emission is

actually in the electricity sector, okay? So, almost 30% of our emission is actually contributed by the electricity as in the generation sector.

**CMD:** 30 or 40?

**Gauri Anand:** 30.

**CMD:** Okay. I'm happy.

**Gauri Anand:** Okay. Is it more? Okay. So, then I don't remember my numbers. Yeah. So, in light of this, that we've got CBAM coming up in Europe, China has already decided to go ahead and have their own carbon tax framework. In light of that, how should we really think, because there is already a mentioning and there are already talks about having a baseline for some of this polluting industries. So, how should we think about this? That was my first question.

**CMD:** That is the direction is, again, I was saying that's quite clear. Let's see that. I think, the Government has been discussing almost about a year now. There is a, not year, even more than that, and there is a framework of what is called CCTE or something then this, the carbon trade and then this mechanism, what is being done. But let me, I think, give you people and this kind of comfort level that we are aware of all of these things. And whatever investment decision we take, we try to ring-fence everything on that. And that is the reason I think there was intelligent question, which came down at the early stage that whether this is everything is on the cost plus. How the things will be what kind of negotiation will happen, how the things will pan out, I think the time will tell. But at the same time, what we are doing, we are quite aware of that. We are mindful of that and we will take care of as far as the Company is concerned. But yes, this is bound to come. I would entirely agree.

**Gauri Anand:** And if I may read out this, just one question on the way the electricity is consumed in India. NTPC account for a fourth of the generation. But when it comes to really distribution and when the manner in which it's getting consumed, it's basically to say that the short-term power market, do you think it has to deepen further? Or are you okay with having more contracts, which are regulated? Just some thoughts on how do you think this architecture should evolve?

**CMD:** I agree with your thoughts that there should be deepening of the markets, deepening, widening in all directions, it should expand. We have as the largest generator and now completely totally diversified in all areas. We keep our trading,

arm, the commercial people, sitting here, they keep then track of everything, that it should further be deepened. But at the same time, what I said that the new capacities what we are taking, the investment decision what we are taking, we have to ensure that this is a safe investment and I don't carry any risk on that. And the regulator is aware of this issue. These are issues and they are kind enough to consider all these aspects. We have many other kind of levers with us, whether it is through some of the hydro capacity, through our solar capacity, wind, storage and there will be some kind of gas assets. I think the young lady just asked that about that. So, we are happy on that side also that there should be market and I have no hesitation to say that. We picked up the 5% equity into PXIL, realizing that yes this is going to play important role. So, market is going to come and there will be more and more space. I think the OTT also, some people will be following that. It's not only the real time, but I think there are many other products, which have been started. And by the way, this is part of the kind awareness giving. The new regulations also provide some kind of upside for us for supplying the reactive power. Till now, everything used to be only on the kilowatt hour. So now kVAr, that is reactive power is also like, and more and more renewable energy is going to provide more and more opportunities for us to get into those, the primary response, the secondary response, tertiary response. There is some sort of market, indirect market, which is coming. And more than that, I think there can be some sort of market, indirect market for us that we are talking to the industries that we can have some of the captive power plants for them.

**Gauri Anand:** Thank you.

**Anuj Upadhyay:** This is Anuj Upadhyay from Investec. Sir, are we selling any surplus power in the open market across the coal-based segment?

**CMD:** The answer is yes.

**Anuj Upadhyay:** And can you quantify any under recovery, which we have reported in the quarter?

**CMD:** There is no under recovery for the quarter you can count, because if there is any kind of under recovery or over recovery, that is on the annualized basis.

**Director (Finance):** Intermittent under recovery could be purely on the basis of some planned outages of certain plants.

**Anuj Upadhyay:** Right.

**Director (Finance):** So ultimately, in the end analysis what is important, but we continuously monitor that. And if there are something, it is set to correct subsequently. And as to earlier this thing, there is a complete framework, wherever we have excess, we have a declaration in excess of what is the scheduling. It can be sold in the market through various segments, the day ahead market, the real time market. So, all this was sold. Certain amount of cost is shared with the beneficiary and remaining can be upside for us.

**Anuj Upadhyay:** Right, Sir. Thank you.

**CMD:** So, time to thank?

**ED (Finance):** Yes, Sir. I believe the queries of the analysts are over now. We now conclude this 20<sup>th</sup> Analysts and Investors Meet. I am grateful to our Chairman and Managing Director, our Directors and Senior Management present here for taking time out for this interaction. The address by CMD and the presentation by Director (Finance) highlighted the achievements of NTPC and showcased the potential that we have. I am thankful to all the analysts and investors present here, whose faith drives us to exceed our performance both operationally and financially year-after-year. Last but not the least, my heartfelt thanks to the Regional Executive Director, Western Region-I, and his team for making arrangements for this meet. We hope to see you next year. I now invite you all for refreshments. Thank you, once again.

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