MANAGEMENT DISCUSSION AND ANALYSIS

ECONOMIC AND SECTOR OUTLOOK

Indian economy slowed down slightly during the financial year 2017-18 as its GDP growth rate dropped to 6.7 percent compared to 7.1 percent in the previous year. Despite year-on-year dip in GDP growth rate, reversal was visible in the Q4, during which the GDP grew at 7.7 percent. It is expected that key reforms such as implementation of the transformational Goods and Services Tax, a major recapitalization package to strengthen public sector banks and the effects of earlier policy actions should allow GDP growth to rise to 7-7.5 percent in financial year 2018-19, thereby reinstating India as the world's fastest growing major economy. Reliable supply of electricity will be a key input for sustaining the growth path and for the Indian industries to remain competitive.

Electricity, water supply, gas and other utilities have registered a growth rate of 7.2 percent at constant prices in the financial year 2017-18.

Major power sector reforms during the year focussed on facilitating growth of renewable energy capacity addition and include initiatives such as promoting e-auction for wind projects and formulating/ revising bidding guidelines for competitive RE-based power procurement. Driven by competitive RE based power procurement through reverse bidding, the tariffs for both solar PV and wind have touched historic lows during the year, and for the first time in the country, the renewable energy sector has added more capacity than the conventional power in financial year 2017-18.

To achieve universal household electrification in the country by March 2019, the Government of India launched Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA). This, supported by visible revival of distribution companies through UDAY, augurs well for the entire Power Sector and would help unleash the huge latent demand for electricity.

The National Electricity Plan by Central Electricity Authority and draft National Energy Policy by Niti Aayog have signalled additional requirement of thermal capacity in coming years. The draft amendments to the tariff policy set the tone for improving health of distribution companies. It also suggests a provision for allowing capacity addition by state or central government owned companies, where the tariff shall be determined based on norm as notified by the appropriate commission.

Some other key focus areas include integration of renewables by further developing ancillary market, allowing flexibility in generation by utilizing renewable capacities to meet existing commitments to supply the power from thermal plants, and promotion of energy efficiency through measures like the updated Energy Conservation Building Code.

INDUSTRY STRUCTURE AND DEVELOPMENTS

Power sector is a key enabler for India's economic growth. The sector consists of generation, transmission and distribution utilities and is a crucial component of India's infrastructure. The achievements regarding developments and various issues/ challenges faced by the Power Sector are discussed in the ensuing paragraphs.

Snap Shot 2017-18

- Gross annual generation of the country increased by 5.35% from 1,242 BUs in the previous year to 1,308 BUs in financial year 2017-18 (including renewables). Generation from Renewable sources increased by 24% from 82 BUs to 102 BUs, while Generation from conventional sources increased by 4% from 1,160 BUs to 1,206 BUs.
- Generation capacity of 9,505 MW (excluding renewables) was added during financial year 2017-18 compared to 14,209 MW added during the previous year.
- Renewable energy capacity of 11,778 MW added during the year. Renewable energy capacity has almost doubled from 34,988 MW as at 31 March, 2014 to 69,022 MW as at 31 March, 2018.
- 23,119 Ckms of transmission lines added during the year as compared to 26,300 Ckms in the previous year.
- 86,193 MVA of transformation capacity added during the year as against 81,816 MVA in the previous year.
- PLF of coal-based stations increased to 60.72% in financial year 2017-18 from 59.81% in financial year 2016-17.
- During the financial year 2017-18, while the energy deficit remained unchanged at 0.7%, the peak power deficit marginally rose to 2% from the 1.6% recorded in financial year 2016-17.

(Source: Central Electricity Authority)

Existing Installed Capacity

The total installed capacity in the country as on 31 March, 2018 was 3,44,002 MW (including renewables) with Private Sector contributing 45% of the installed capacity followed by State Sector with 30% share and Central Sector with 25% share.

	Total Capacity (MW)	% share
Private	1,55,511	45
State	1,03,975	30
Central	84,516	25
Total	**3,44,002**	**100**

Mode-wise installed capacity in the country as on 31 March, 2018 is as under:

	Total Capacity (MW)	% share
Thermal	2,22,907	65
Nuclear	6,780	2
Hydro	45,293	13
RES (Renewables)	69,022	20
Total	**3,44,002**	**100**

(Source: Central Electricity Authority-Installed Capacity report)

Capacity Utilization and Generation

Capacity utilisation in the Indian power sector is measured by Plant Load Factor (PLF).

Sector wise PLF (Thermal)

Sector	2017-18	2016-17
State	56.90	54.35
Central	72.38	71.29
Private-IPP	55.09	55.90
Private-Utilities	**60.42**	**58.49**
All India	**60.72**	**59.81**

(Source: Central Electricity Authority)

The outlook for generation appears promising with expected increase in industrial production and Government of India's mission to provide 24x7 electricity to all.

In the emerging scenario of high variable renewable energy infusion into the grid, supplying power with reliability has gained prominence over PLF. In this context, it is crucial that the thermal capacities are able to supply fast response balancing power and maintain adequate reserve capacity.

Existing Generation

The total conventional power available in the country during the financial year 2017-18 was 1,206.31 BUs as compared to 1,160.14 BUs during last year, registering a growth of 3.98%. (generation figures pertain to monitored capacity by CEA)

Sector-wise and fuel-wise break-up of generation (BUs) for the year 2017-18 is detailed as under:

Sector	Thermal	Hydro	Nuclear	Bhutan Import	Total
Central	356.13	55.04	38.35	-	**449.52**
State	320.74	56.99	0.00	-	**377.73**
Private	360.19	14.09	0.00	-	**374.28**
Bhutan Import	**0.00**	**0.00**	**0.00**	**4.78**	**4.78**
Total	**1,037.06**	**126.12**	**38.35**	**4.78**	**1,206.31**

(Source: Central Electricity Authority)

As far as Thermal generation is concerned, based on the monitored capacity by CEA, the generation contribution of central sector is 33.12% with installed capacity share of 28.22%, state sector contributes 31.62% of generation with installed capacity share of 33.29% and private sector contributes 35.26% of generation with installed capacity share of 38.49%.

Central sector utilities have better performing stations as compared to those of State sector utilities and Private sector utilities.

Consumption

In terms of per capita power consumption, India ranks among the lowest in the world. The per capita consumption of power in India is just 1,122 units in financial year 2016-17 (provisional) *(Source: Central Electricity Authority),whereas the global average is 3,052 units (Source: IEA Key World Energy Statistics 2017).*

Major end users of power can be broadly classified into industrial, agricultural, domestic and commercial consumers. These consumers represented approximately 40%, 19%, 24% and 9%, respectively, of power consumption measured by units of electricity consumed in the year 2016-17. Traction & Railways and others represented about 8% of power consumption. The electricity consumption in Industry sector has increased at a faster pace compared to other sectors during 2007-08 to 2016-17 with CAGR of 8.46%. The share of industry, however, has reduced in financial year 2016-17 as compared to financial year 2015-16.

(Source: Ministry of Statistics and Programme Implementation-Energy Statistics 2018).

As reported in the Draft National Energy Policy (June 2017), nearly 304 million Indians still lack access to electricity. The Government of India launched Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA) in September 2017 to provide free electricity connections to all households in rural areas and poor families in urban areas by December 2018. It is an ambitious target as compared to earlier scheme of Power for All by 2022. As indicated in the SAUBHAGYA Dashboard, since 11.10.2017 more than 20% households have been electrified out of the ~4 crore households to be covered under this scheme. This takes the household electrification status to 87% of the total households in the country being electrified as on date.

(Source: SAUBHAGYA dashboard)

Other key initiatives taken by Govt. of India include Integrated Power Development Scheme (for providing 24x7 power supply in the urban areas) and Deen Dayal Upadhyaya Gram Jyoti Yojana (agricultural feeders segregation, strengthening of sub-transmission & distribution infrastructure in rural areas and rural electrification). 100% village electrification has been achieved.

Transmission

The transmission network (at voltages of 220 kV and above) in the country has grown at an average rate of ~7.22% CAGR since the end of 11th Plan in terms of circuit kilometers added.

The total inter-regional transmission capacity of country has increased from 27,750 MW at the end of 11th plan to 86,450 MW as on 31 March, 2018. During the financial year 2017-18, 11,400 MW inter-regional capacity was added.

This augmentation of the national grid will help promote competition and enable merit order dispatch of generation leading to lower cost of power for consumers. This is also essential for supporting higher injection of renewables into the grid for transfer of power from RE-rich states to other states. This large-scale integration of renewable energy along with other factors such as increasing power generation capacity and reforms in fuel sector is slated to increase the demand for transmission capacity significantly in the coming years.

Distribution

Distribution is the key link to realize the Government of India's vision of supplying reliable 24x7 Power for All. For this, the distribution companies need to be healthy to be able to discharge their functions & responsibilities efficiently.

In the past few years, the average tariff charged from end-consumers has risen, but the increase has not been commensurate with the increase in the cost of supply resulting in consistent revenue gap. This, coupled with high AT&C losses, has been piling up huge losses for the state utilities.

To improve the distribution segment's performance, Government of India launched a comprehensive power sector reform scheme, Ujwal Discom Assurance Yojana (UDAY) on 05.10.2015 for operational and financial turnaround of Discoms. The scheme has helped debt laden Discoms to reduce losses by more than 70% to ~ ₹ 17,000 crore in financial year 2017-18. The ACC-ARR gap has reduced from ₹ 0.59 per kWh in 2016 to ₹ 0.22 per kWh in June 2018 and AT&C losses are below 20% now.

The proposed amendments in Tariff Policy include several distribution related changes to address the sustainability issues of distribution sector, such as:

- Time-based service level agreements for service to end-consumers and penalties for non-technical outages.
- Discoms to assure adequate tie-up of capacities to enable them to meet their power requirements by March 2019.
- Strict adherence to timeline for AT&C loss reduction to 15% by 2019 and further reduction to 10% by 2022.
- Subsidy to be given by way of Direct Benefit Transfer directly into consumer accounts and cross subsidy charges for open access are to be brought within 20% of the average cost of supply.
- Electricity supply to be made pre-paid with 100% metering of consumers.
- Regulations by appropriate commissions to make open access information transparent, applications handling time-bound and CSS payable for maximum period of 1 year.

Power Trading

In India, power is transacted largely through long term Power Purchase Agreements (PPA) entered into between Generating companies and the Distribution utilities. A small portion is transacted through various short-term mechanisms like bilateral transactions through licensees, Day-ahead transactions through power exchanges and real time balancing market mechanism (i.e. Deviation Settlement Mechanism).

In the year 2017-18, around 89% of power generated in the Country was transacted through the long-term PPA route. 11% of the power was transacted through short-term trading mechanisms.

(Source: Central Electricity Regulatory Commission)

Key Initiatives/Reforms & Regulatory Changes in Power Sector

1. **SAUBHAGYA:** To achieve universal household electrification in the country by March 2019, GoI has launched the "Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA)" in October 2017. Scope of the scheme includes providing electricity connections to all willing un-electrified households in rural areas, providing solar PV-based standalone systems to inaccessible villages and habitations and connections to all remaining economically poor willing un-electrified households in urban areas.

2. **SHAKTI:** GoI approved SHAKTI (Scheme for Harnessing

and Allocating Koyala Transparently in India) in May 2017 to make coal allocation more transparent and bidding based. As per the Scheme,future allocation/ grant of linkages to power producers/ IPPs will be based on auction. The Scheme shall benefit the sector in terms of coal availability for all power plants in transparent and objective manner, cheaper and affordable power, reduction of sectoral stress on account of non-availability of linkages to power projects thereby enhancing confidence of financial institutions in power sector.

3. Draft National Energy Policy released by Niti Aayog in June 2017 sets the new energy agenda for India consistent with the redefined role of emerging developments in the energy world. The four key objectives of this policy are Access at affordable prices, Improved security and Independence, Greater Sustainability and Economic Growth.

4. Central Electricity Authority released the National Electricity Plan in January 2018 which provides a 15-year perspective of power requirement, generation, fuel mix of generation, and all the integrating systems with respect of generation (especially renewable generation) and transmission systems. The Plan projects the electrical energy requirement to be 1,566-1,641 BUs in financial year 2021-22, compared to about 1200 BUs in financial year 2017-18, which translates into a more than 6% CAGR. The plan projects requirement of about additional 46 GW of thermal capacity by financial year 2026-27. This is in addition to the capacity already under construction.

5. Waiver of ISTS transmission charges and losses available for wind projects which will achieve COD till March 2019 and solar projects which will achieve COD till December 2019, will give boost to solar and wind power generation in the country.

6. Revised guidelines and Model Bidding Documents for medium-term procurement of power by Distribution Licensees through tariff based competitive bidding process were notified. This will result in greater transparency and fairness in procurement processes for ultimate benefit of the consumers.

7. Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Solar PV and Wind Power Projects were issued in August 2017 and December 2017 respectively.

8. MoP notified a policy “Flexibility in Generation and Scheduling of Thermal Power Stations to Reduce Emissions” on 05.04.2018. This aims at providing flexibility to Gencos to partially substitute thermal power with Solar Power. Now Gencos have an option to replace the thermal power with cheaper solar power, which will help Discoms in reducing their electricity cost and also fulfill RPO. Discoms need not sign any separate PPA for this RE power and will enjoy balancing power from the existing thermal power as well share net savings, if any.

9. **Energy Efficiency related:**

   a. Energy Conservation Building Code 2017 was launched in June 2017 which sets the minimum energy standard for new commercial buildings, including norms and standards for building design, lighting, heating, air-conditioning and electrical systems.

   b. Trading of ESCerts (Energy Saving Certificates) under PAT Scheme of Bureau of Energy Efficiency has led to trading of about 10 lakh ESCerts at around ₹ 87 crore.

   c. Under UJALA and Street Lighting National Programme, massive replacement with LED lights for residential and public lighting has led to substantial saving in energy.

OPPORTUNITIES AND THREATS/CHALLENGES

OPPORTUNITIES

1. **Renewable Energy**

Government of India has targeted to achieve 175 GW capacity by 2022, comprising of 100 GW Solar, 60 GW Wind, 5 GW Small Hydro and 10 GW Bio-power (including biomass). Several measures in the renewable energy sector such as Guidelines for Tariff Based Competitive Bidding Process for Procurement of Power from Grid Connected Solar PV and Wind Power Projects, draft Solar-Wind hybrid policy are attracting investments in this sector. This, coupled with historic lows in solar and wind tariffs have completely transformed the sector dynamics. Also, the RPO trajectories set by National Tariff Policy 2016 that enhance the RE limits further promote the procurement of renewable energy by distribution companies.

Your Company has made a target of achieving 32 GW of RE based capacity by 2032 under its long-term Corporate Plan. Your Company is also assisting the Government of India in its National Solar Mission.

Variable Renewable Energy integration into the grid has opened up many opportunities for potential energy solutions under the umbrella of ancillary services, such as Battery energy storage, efficient ramping up and down of units etc.

2. **Electric Vehicles**

The FAME mission (Faster Adoption and Manufacturing of Electric Vehicles), spearheaded by Ministry of Heavy Industries, has created opportunities for your Company in the form of additional demand of electricity, development of charging infrastructure & battery swapping facilities.

It is estimated that by 2030, about 70 BUs of electricity may be consumed by the charging infrastructure. Your Company is actively looking for opportunities to enter the electric vehicle charging infrastructure business space. It has signed a Memorandum of Understanding with Jabalpur City Transport Services Limited (JCTSL) for meeting the city's charging related infrastructure needs and is exploring such tie-ups for other cities as well. Electric Vehicle business would not only help your company in venturing into a new business area but would also help increase power demand across the country.

In order to promote electric mobility, the proposed amendments to the Tariff Policy 2016 includes the guideline that SERCs may lay down an appropriate framework for electricity supply from the Discom to the charging stations such that tariff is aligned with cost of supply and that there shall be single part tariff for this purpose in the initial 3 years.

As an environmentally and socially responsible company, your company is promoting electric vehicles across the country by installing EV chargers in its plants and townships and is replacing public use vehicles with electric vehicles in a phased manner.

3. **Cross Border Power Trading**

The country intends to establish a power grid that connects countries under BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation). This will open up opportunities for your Company and the Indian power sector.

NVVN, 100% owned subsidiary of NTPC, has been assigned the role of Nodal Agency for cross border trading of power with Bhutan, Bangladesh and Nepal by GoI. Currently, it is supplying 410 MW power to Bangladesh and 120 MW to Nepal under various agreements.

4. **International business**

Your Company, by virtue of its growing project management and O&M experience with an expanding power generation portfolio, is looking at overseas opportunities, in Middle East & South East Asia and Africa.

5. **Environmental aspects**

Revised environmental norms for thermal power plants notified by Ministry of Environment, Forest and Climate Change (MoEF & CC) require modifications in power plants to contain SPM, SOx, NOx and Mercury emissions and reduce specific water consumption and entails substantial investment. Government of India has recognised such investments as "Change in Law", for the purpose of recovering the cost of such investment under regulated tariff.

Your company is spearheading the adoption of Flue Gas Desulphurisation and developing solutions for de-NOx that can be used for high ash content coal and shall be in a position to provide consultancy services for power plants across the nation for a smooth transition for meeting the new norms.

Your company has successfully implemented pilot testing for biomass co-firing in its Dadri Power Plant and has awarded a contract to procure biomass pellets for co-firing up to 10%. This intervention is expected to discourage burning of crop residues.

Threats/Challenges/Concerns

1. **Solar and Wind Power**

With Tariff Based Competitive Bidding applicable for both solar and wind, their tariffs have been continuously falling and have hit historic lows in the financial year 2017-18. As the sector matures and consolidates, it is expected that more stable and realistic tariffs may be discovered.

In order to integrate variable RE into the grid, coal based power plants have to regulate their generation to maintain grid balance. Therefore, influx of more RE power in the grid would require many coal-based plants to operate in a flexible manner. This cyclic operation has impact on coal-based power plants in terms of lower efficiency at partial load leading to higher generation cost. Although this is taken care of by the compensation charges for lower Loading Factors, the other 'integration costs' such as cost for balancing services, reduced life due to flexible operation of thermal plant are yet to be adequately quantified.

2. **Environmental Concerns**

The environmental concerns particularly relating to coal based thermal stations has emerged as a major issue. In December 2015, MoEF & CC notified the new standards for water consumption, particulate matter, SOx, NOx and mercury for thermal power stations, segregating them into three categories: plants installed before 31.12.2003, after 2003 up to 31.12.2016 and beyond 2016. Despite many challenges like availability of space, lack of proven technology for high ash domestic coal etc., the thermal plants have to undergo necessary retrofits to comply with the norms progressively by 2022. Logistics and supply chain for sourcing the consumables and disposing of the waste generated impose additional challenges.

Further, the cost impact of these revised norms will be ~50 paisa per unit of electricity due to installation of new systems.

Your Company has taken up installation of Flue Gas Desulphurisation at various locations in a phased manner with 500 MW under operation, more than 7 GW under construction and ~30 GW under various stages of bidding. Also, your Company is leading pilot tests for assessing appropriate technology for containing NOx emissions in Indian power stations using high ash content domestic coal.

3. **Availability of Gas**

Power sector is the third priority for domestic gas allocation after City Gas and Fertilizers. Domestic gas availability under APM falls short of requirement. Even the allocated gas under APM is not fully utilised as the gas-based stations are lower in merit order dispatch. On account of these factors, the PLF of gas-based power plants in the country remained low and the power sector has been struggling to recover costs of capital investment in gas-based capacity. With limited domestic gas availability, Flexible operations of gas stations in the most optimal manner, especially in view of increasing penetration of renewable requiring balancing power, is also under consideration by Government of India.

4. **Other Issues/Concerns**

- Availability of land/ Right to use of land/Right of way on land.
- Availability of water.
- Environment and forest clearance at State level to expedite E & F clearance to the project.
- Logistics for movement of heavy machinery like roads and bridges.
- Human resource requirement commensurate with the requirement of the various skilled and unskilled jobs.
- Impact on conventional power capacity: Increasing share of Renewables is not only going to reduce PLF of conventional power plants, but also force to regulate generation to compensate for intraday variation in power generation by RE sources.
- Grid integration issues: The integration of Renewable power into power systems results in 'integration costs' for grid which includes cost for balancing services, more flexible operation of thermal plant, reduced utilization of transmission network.

OUTLOOK FOR THE COMPANY

Strategic focus of the Company

Your Company is market leader in power generation, supplying around 23% of the country's electricity supply and thus plays a key role in India's economic activity. As a state-owned utility, your Company's priority is to provide affordable and reliable power and support for country's rapid developing economy. It has a diversified portfolio of coal, gas, solar, wind, hydro and small hydro-based power plants and has integrated both backwards and forward into coal mining and power trading.

As per its long term corporate plan, your Company has targeted to achieve total installed capacity of 130 GW by 2032, to be implemented through development of greenfield & brownfield projects, collaborations and acquisitions. The capacity will have a diversified fuel mix comprising 65.4% coal, 4.6% gas, 1.5% nuclear and 28.5% Renewable Energy Sources (RES) including hydro. Therefore, by 2032, non-fossil fuel based generation capacity shall make up nearly 30% of NTPC's portfolio.

Your company envisages enhancing its current presence in consultancy, power trading and ancillary services. It is also planning to make a foray into electric mobility and battery storage, supported by research & development and collaboration with OEM/OES, research institutes etc.

Inorganic growth opportunities

Your Company is looking for opportunities for acquisition of power plants if available at attractive valuations for adding capacity after analysing the technical and financial viability of the project(s). Considering huge stranded generation capacity, there is a good scope for consolidation in the sector.

Your Company has acquired equity of Bihar State Power Generation Co. Ltd. (BSPGCL) in Kanti Bijlee Utpadan Nigam Ltd & Nabinagar Power Generating Company Limited making them wholly-owned subsidiaries. Further, enabling actions are underway for the takeover of Barauni Thermal Power Station. These stations together account for about 3 GW capacity.

Fuel Security

Your Company has achieved fuel security through its long-term coal supply agreements. The materialization of Annual Contracted Quantity increased to 96% in current financial year from 94% during the last fiscal.

Your Company has been allocated 10 coal blocks with estimated geological reserves of ~7 billion tonnes with estimated mining capacity of 111 million tonnes per annum. With these coal blocks, your company aspires to become one of the largest captive coal mining companies in the country. It is envisaged that by 2030, one-third of NTPC's requirement would be fulfilled from captive mines.

During the financial year 2017-18, your Company has made significant progress in development of various coal mines. Dulanga coal block has become operational since February 2018. Coal production from Pakri-Barwadih coal mine project had started in financial year 2016-17 and coal is being supplied to Company's Thermal Power Plants at Barh, Kudgi and Solapur.

Your Company's reliance on imported coal is negligible, thereby contributing to reduction in cost of power. During the financial year 2017-18, less than 0.2% of your Company's coal consumption was from imported sources.

Renewable Energy

With more than 870 MW of solar installed capacity, your Company has ventured into large-scale deployment of solar assets and is committed to add 10 GW of own renewable power capacity by 2022. Your Company is also assisting the Government of India in its National Solar Mission.

Your Company through its R&D wing NETRA has installed 100 kW floating solar PV Plant at its Rajiv Gandhi Combined Cycle Power plant in Kerala and is set to capitalize on opportunities presented in this segment.

Optimisation of ECR

In spite of increase in coal prices, coal cess and railway freight, your company has been able to keep the average ECR stable by optimal utilisation and swapping of coal linkages. During the current year, the ECR of NTPC coal stations reduced to ₹ 1.91 per unit from ₹ 1.98 per unit in the previous year. The entire exercise was carried out for the benefit of end consumers.

Off-take and realization

The National Electricity Plan projects additional requirement of 46 GW of coal based capacity by 2027. This is in addition to the capacity already under construction. Your company firmly believes that with structural reforms in the distribution segment through UDAY Scheme and SAUBHAGYA, proposed amendments in Tariff Policy, economic growth of the country and improving standards of lives, the demand will pick-up.

Your Company has, for the 15th consecutive year, realized 100% of its dues and is confident of maintaining its track record in future also. Further, with extension of Tri-partite Agreements by most of the states, the risk of realization is mitigated to great extent.

Leveraging on strengths for delivering better future performance

Your Company derives competitive edge from its strengths and is confident of meeting future challenges in the sector.

a. **Project Management**

Your Company has adopted an integrated system for planning, scheduling, monitoring and controlling of approved projects under implementation. To coordinate and synchronise all the support functions of project management it relies on a three-tiered project management system known as the Integrated Project Management Control System (IPMCS), which integrates its engineering management, contract management and construction management control centers.

The IPMCS system provides regular monitoring, analysis of variations identified both within the external and internal control parameters and taking managerial action based on "Management by exception" philosophy.

Your Company has added 3,478 MW capacity and commercialised 4,423 MW capacity in FY 2017-18. This is the 2nd highest yearly commercial capacity addition achieved in the history of NTPC.

b. **Operational Efficiency**

The operating performance of NTPC has been considerably above the national average. During the financial year 2017-18 PLF of NTPC coal stations was 77.90% against all India PLF of 60.72%. Over the years, NTPC has consistently operated at much higher operating efficiency as compared to All India operating performance.

Company's generation grew by 6.19% during financial year 2017-18. The total generation of the company was 265.798 BUs in financial year 2017-18 as against 250.314 BUs in financial year 2016-17.

In order to achieve cost-competitive, environment friendly, efficient & reliable power generation, the company has adopted following strategies:-

- ✓ Advance alert/support to stations through remote (Special Analytics & Computational Services Center) analysis of critical operation parameters, is functional, thereby improving system reliability and effecting a reduction in outages & maintenance costs.
- ✓ Reduction of forced outages through monitoring of start-up & planned shutdown, root cause analysis of outages & trips, with action plans for mitigating all system/equipment liabilities.
- ✓ Optimizing planned outage period through implementation of overhaul preparedness index (OPI), ensuring all quality checks and time bound monitoring of each activity.
- ✓ To implement best practices at enterprise level, knowledge teams for each equipment has been created.
- ✓ Improvement in Heat Rate & Auxiliary Power Consumption achieved by parametric optimization at part loads by operation of units in sliding pressure mode & optimizing excess air.
- ✓ To minimize efficiency losses in stations, Plant Information (PI) system based applications for real time efficiency & loss calculations.
- ✓ Structured & regular energy audit helps to identify potential areas of improvement in APC reduction which are being addressed in planned time bound implementation schedule.
- ✓ Implementation of Energy Efficiency Management System (EEMS) consisting of periodic assessments, field tests, performance gap analysis deviations and updating of action plans at all stations.
- ✓ To reduce cost of thermal generation, steps have been taken to maximize use of domestic coal, swapping of coal sources to reduce transport cost & proper blending.
- ✓ Use of comprehensive Performance Evaluation Matrix for relative evaluation of the performance of various power plants over a set of comprehensive performance indicators to create an environment of in-house challenge and competition. The parameters are reviewed annually to include new set of parameters commensurate with market dynamics and development of power sector.
- ✓ Adopting advanced technologies in new units e.g. commissioning of super critical units, which improves system efficiency & reduces carbon footprint.
- ✓ Renovation & modernisation for reduction of greenhouse gas emissions, effective modernized control systems for environment friendly economic generation.

c. Human Resources

Your Company has a highly talented team of committed professionals and has been able to induct, develop and retain the best talent. Your Company has a pool of ~21,000 employees creating value for the Company. Your Company has a very low executive attrition rate. The HR vision of your Company is "To enable its people to be a family of committed world class professionals, making NTPC a learning organisation." Your company is deeply passionate about ensuring the holistic development of all its employees as distinct individuals and good citizens. Competence building, Commitment building, Culture building and Systems building are the four pillars on which HR systems of your company are based.

Your Company has been conferred with various HR awards over the years by reputed institutions and consistently features among the "Great Places to Work For". The commitment of the employees is also reflected in terms of financial parameters such as sales/employee, value added/per employee etc.

d. Sound Corporate Governance

Your Company's corporate governance practices have been recognized and awarded at several forums. Your Company believes in following the highest standards of transparency, integrity and accountability. It enjoys the confidence of all stakeholders alike. Your Company not only believes in adopting best practices but also includes public interest in its corporate priorities and has developed extensive social outreach programmes.

e. Robust financials and systems

Your Company has strong financial systems in place. It believes in prudent management of its financial resources and strives to reduce the cost of capital. Your company enjoys highest credit-rating assigned by CRISIL, ICRA and CARE. The foreign ratings by Fitch, S&P & Moody's are at par with sovereign ratings. It has robust financials leading to strong cash flows which are being progressively deployed in generating assets. Your Company has a strong balance-sheet coupled with low gearing and healthy coverage ratios. As a result, your Company has been able to raise resources for its capital expansion projects at very competitive interest rates both in domestic as well as international market.

RISK MANAGEMENT

Your Company has an elaborate Enterprise Risk Management framework in place. A Functional Director level sub Committee of the Board, called Risk Management Committee (RMC) has been constituted in compliance with the Companies Act, 2013 and SEBI (LODR) Regulations. The RMC is responsible for identifying & reviewing the risks and to formulate action plans and strategies to mitigate risks on short term as well as long term basis. The RMC has identified 25 risks, out of which 8 have been classified as the top risks for the company:

- Compliance of emission, ash utilization and regulatory norms
- Delay in execution of projects
- Difficulties in acquisition of land
- Inadequate fuel supply
- Risks pertaining to Hydro Projects
- Risks related to coal mining
- Sustaining efficient plant operations
- Threats to Safety & security of people & property

The risks are regularly monitored through reporting of key performance indicators of identified risks. The risk assessment and the action required to be taken are reported regularly to the Board of Directors.

Internal Control

To ensure regulatory and statutory compliances as well to provide highest level of corporate governance, your Company has robust internal systems and processes in place for smooth and efficient conduct of business and complies with relevant laws and regulations. A comprehensive delegation of power exists for smooth decision making which is being periodically reviewed to align it with changing business environment and for speedier decision making. Elaborate guidelines for preparation of accounts are followed consistently for uniform compliance. In order to ensure that all checks and balances are in place and all internal control systems are in order, regular and exhaustive internal audits are conducted by the experienced firms of Chartered Accountants in close co-ordination with the Company's own Internal Audit Department. Besides, the Company has two committees of the Board viz. Audit Committee and Committee on Management Controls to keep a close watch on compliance with Internal Control Systems.

A well-defined internal control framework has been developed identifying key controls. The supervision of operational efficiency of designed key controls is done by Internal Audit. The framework provides elaborate system of checks and balances based on self-assessment as well as audit of controls conducted by Internal Audit at the process level. Gap Tracking report for operating efficiency of controls is reviewed by the management regularly and action is taken to further strengthen the Internal Control System by further standardizing systems & procedures and implement process changes, wherever required, keeping in view the dynamic environment in which your Company is operating. The Internal Control Framework system presents a written assessment of effectiveness of Company's internal control over financial reporting by the process owners to facilitate certification by CEO and CFO and enhances reliability of assertion.

FINANCIAL DISCUSSION AND ANALYSIS

A detailed discussion and analysis on financial statements is furnished below. Figures of previous year have been regrouped/rearranged wherever necessary. Reference to Note (s) in the following paragraphs refers to the Notes to the standalone financial statements for the financial year 2017-18 placed elsewhere in this report.

A. Financial position

The items of the Balance Sheet are as discussed under:

1 Property, plant & equipment (PPE), Capital work-in–progress, Intangible assets and Intangible assets under development (Note-2 to Note-5)

The PPE, Intangible assets, Capital work-in–progress and Intangible assets under development of the Company are detailed as under:

(₹ Crore)

Particulars	As at March 31		% Change
	2018	2017	
Gross block of PPE (Note-2)	1,40,739.35	1,11,414.60	26%
Net block of PPE (Note-2)	1,20,720.61	99,062.70	22%
Capital work-in-progress (Note-3)	77,313.87	80,302.46	-4%
Intangible assets (Note-4)*	331.60	293.02	13%
Intangible assets under development (Note-5)	469.36	434.63	8%

* Net block

During the year, total gross block of PPE increased by ₹ 29,324.75 crore over the previous year i.e. by 26%. This was mainly on account of declaration of commercial operation of 3,978 MW capacities during financial year 2017-18 and also capitalisation of some other assets. Correspondingly, net block has increased by 22% and capital work-in-progress has decreased by 4%. Intangible assets and intangible assets under development taken together have increased by 10% over the last year.

2 Investments in subsidiary and joint venture companies (Note-6)

The break-up of investments in subsidiary and joint venture companies is as follows:

(₹ Crore)

Particulars	As at March 31	
	2018	2017
Investment in Subsidiaries	2,754.62	1,922.23
Investment in Joint ventures	7,186.58	6,212.40
Total	**9,941.20**	**8,134.63**

During the year, investments in subsidiary and joint venture companies increased by 22%. The Company invested ₹ 832.39 crore in the following subsidiary companies:

(₹ Crore)

Name of subsidiary company	Amount
Kanti Bijlee Utpadan Nigam Ltd.	313.43
Bhartiya Rail Bijlee Company Ltd.	426.92
Patratu Vidyut Utpadan Nigam Ltd.	92.04
Total investment	**832.39**

The Company's investment in joint venture companies increased by ₹ 974.18 crore as under:

(₹ Crore)

Name of JV Company	Amount
NTPC-Tamil Nadu Energy Company Ltd.	24.38
Ratnagiri Gas & Power Private Ltd. (RGPPL)*	-139.75
Konkan LNG Private Ltd. (KLPL)*	139.75
Aravali Power Company Private Ltd.	34.50
Meja Urja Nigam Private Ltd.	42.89
BF-NTPC Energy Systems Ltd.	0.28
Nabinagar Power Generating Company Private Ltd.	470.64
Hindustan Urvarak & Rasayan Ltd.	328.22
Bangladesh-India Friendship Power Co. Private Ltd.	64.71
Total investment	**965.62**
Less: Provision for impairment made/(written back) during the year	
Ratnagiri Gas & Power Private Ltd.	165.90
Konkan LNG Private Ltd.	(139.75)
NTPC BHEL Power Projects Private Ltd.	(16.91)
BF-NTPC Energy Systems Ltd.	(0.68)
Net increase in Investment	**974.18**

* Power and LNG business of RGPPL has been demerged during the year. Consequent upon demerger, NTPC's stake in RGPPL has reduced by ₹ 139.75 crore to ₹ 834.55 crore. Further, equity shares amounting to ₹ 139.75 crore have been allotted to NTPC in KLPL.

3 Non-current financial assets (Note-7 to Note-10)

Non-current financial assets mainly comprise of investment in equity instruments, trade receivables, loans to related parties, employees & others, share application money, claims recoverable, finance lease receivables and mine closure deposit.

(₹ Crore)

Particulars	As at March 31		% Change
	2018	2017	
Investments (Note-7)	106.28	113.48	-6%
Trade receivables (Note-8)	-	35.59	-100%
Loans (Note-9)	655.67	530.59	24%
Other financial assets (Note-10)	1,632.86	1,874.18	-13%
Total	**2,394.81**	**2,553.84**	**-6%**

Investments mainly comprise of investment in equity instruments of PTC India Ltd. The carrying value of equity instruments of PTC India Ltd. has decreased from ₹ 112.08 crore as at 31 March, 2017 to ₹ 104.88 crore as at 31 March, 2018 due to decrease in market value of shares of PTC India Ltd.

Loans have increased from ₹ 530.59 crore as at 31 March, 2017 to ₹ 655.67 crore as at 31 March, 2018. Increase in loans is mainly due to increase in outstanding loan to subsidiary company, Kanti Bijli Utpadan Nigam Ltd., by ₹ 80.00 crore. In addition, outstanding loans to employees have also increased by ₹ 78.56 crore as at 31 March, 2018.

Other financial assets include share application money pending allotment in subsidiary and joint venture companies, claims recoverable, finance lease receivables and mine closure deposit.

(₹ Crore)

Other financial assets (Note-10)	As at March 31		% Change
	2018	2017	
Share application money pending allotment in subsidiary and joint venture companies	407.85	704.25	-42%
Claims recoverable	704.22	638.97	10%
Finance lease receivables	502.32	525.29	-4%
Mine closure deposit	18.47	5.67	226%
Total	**1,632.86**	**1,874.18**	**-13%**

Share application money pending allotment in subsidiary and joint venture companies and mine closure deposit have been reclassified in Note-6 and Note-11 respectively in previous period's financial statements to enhance comparability with the current year's financial statements.

Claims recoverable includes ₹ 680.11 crore (31 March 2017: ₹ 619.34) towards the cost incurred up to 31 March, 2018 in respect of one hydro power project, the construction of which has been discontinued on the advice of the Ministry of Power (MOP), GOI. This includes ₹ 390.59 crore (31 March 2017: ₹ 332.38 crore) in respect of arbitration awards challenged by the Company before Hon'ble High Court. In the event the High Court grants relief to the Company, the amount would be adjusted against Current liabilities - Provisions - Provision for Others (Note-32). Management expects that the total cost incurred, anticipated expenditure on the safety and stabilization measures, other recurring site expenses and interest costs as well as claims of contractors/vendors for various packages for this project will be compensated in full by the GoI. Hence, no provision is considered necessary.

Keeping in view the provisions of Appendix C to Ind AS 17 'Leases' w.r.t. determining whether an arrangement contains a lease, the Company has ascertained that the Power Purchase Agreement (PPA) entered into for Stage I of one power station with the beneficiary falls under the definition of finance lease. Accordingly, the written down value of the specified assets has been derecognised from PPE and accounted for as Finance Lease Receivable (FLR). Recovery of capacity charges towards depreciation (including AAD), interest on loan capital & return on equity (pre-tax) components from the beneficiary are adjusted against FLR. The interest component of the FLR and amount received on account of revision of tariff of previous periods in respect of the above three elements are recognised as 'Interest income on assets under finance lease' under 'Revenue from operations' (Note-36).

4 Other non-current assets (Note-11)

Total other non-current assets as at 31 March, 2018 were ₹ 11,568.68 crore as against ₹ 16,873.48 crore as at 31 March, 2017. Other non-current assets consist of advances for capital expenditure, advances other than capital advances, security deposits, advance tax net of provision for tax, deferred foreign currency fluctuation asset and deferred payroll expenditure.

Other non-current assets have decreased by ₹ 5,304.80 crore, a decrease of over 31%. The decrease is mainly due to reduction in capital advances from ₹ 6,390.22 crore to ₹ 4,701.29 crore and decrease in advance tax net of provision for tax from ₹ 6,906.20 crore to ₹ 3,216.14 crore due to refund of income tax, received during the year.

As per the opinion of the Expert Advisory Committee (EAC) of the Institute of Chartered Accountants of India (ICAI), exchange differences on account of translation of foreign currency borrowings which are recoverable from the beneficiaries in subsequent periods as per CERC Tariff Regulations are accounted as 'Deferred foreign currency fluctuation asset'. Accordingly, an amount of ₹ 1,119.00 crore has been accounted under this head up to 31 March, 2018 (31 March 2017: ₹ 1,032.68 crore). Deferred foreign currency fluctuation asset has increased mainly due to fall of Indian Rupee against Euro.

5 Current assets (Note-12 to Note-18)

The current assets as at 31 March, 2018 and 31 March, 2017 and the changes therein are as follows:

(₹ Crore)

Particulars	As at March 31		Y o Y	% Change
Current assets	**2018**	**2017**	**Change**	
Inventories (Note-12)	6,057.38	6,504.81	-447.43	-7%
Trade receivables (Note-13)	7,577.97	8,137.92	-559.95	-7%
Cash & cash equivalents (Note-14)	60.49	157.12	-96.63	-62%
Bank balances other than cash and cash equivalents (Note-15)	3,917.89	2,773.37	1,144.52	41%
Loans (Note-16)	280.22	236.92	43.30	18%
Other financial assets (Note-17)	7,938.12	6,053.32	1,884.80	31%
Other current assets (Note-18)	10,878.23	4,536.44	6,341.79	140%
Total current assets	**36,710.30**	**28,399.90**	**8,310.40**	**29%**

Inventories (Note-12)

Inventories as at 31 March, 2018 were ₹ 6,057.38 crore as against ₹ 6,504.81 crore as at 31 March, 2017. Inventories mainly comprise of stores & spares and coal which are maintained for operating plants. Stores and spares were ₹ 2,915.56 crore as against ₹ 2,890.96 crore as at previous year end. Value of coal inventory decreased from ₹ 2,627.38 crore as at 31 March, 2017 to ₹ 2,085.38 crore as at 31 March, 2018 due to lesser coal stock at our power plants.

Trade receivables (Note-13)

Trade receivables as at 31 March, 2018 are ₹ 7,577.97 crore as against ₹ 8,137.92 crore as at 31 March, 2017. Trade receivables have decreased by 7% over the previous year and correspondingly on number of day's sales basis, receivables have gone down from 38 days to 34 days. The Company has collected 100% dues for the 15th year in succession.

Keeping in view the requirements of Companies Act, 2013, unbilled revenues are shown under 'Current assets - Other financial assets' (Note-17).

Cash and cash equivalents (Note-14) & Bank balances other than cash and cash equivalents (Note-15)

Cash and cash equivalents & bank balances other than cash and cash equivalents have increased from ₹ 2,930.49 crore as at 31 March, 2017 to ₹ 3,978.38 crore as at 31 March, 2018. This increase is mainly due to rise in deposits representing unutilised balance of Medium Term Notes (MTNs) from ₹ 955.33 crore as at 31 March, 2017 to ₹ 1,743.89 crore as at 31 March, 2018. These deposits can be utilised only for the stated purposes.

Loans (Note-16)

Loans have increased from ₹ 236.92 crore as at 31 March, 2017 to ₹ 280.22 crore as at 31 March, 2018. This increase is mainly due to increase in loan to subsidiary company, Patratu Vidyut Utpadan Nigam Ltd., from ₹ 25.00 crore as at 31 March, 2017 to ₹ 41.75 crore as at 31 March, 2018. In addition, loans to employees have also increased from ₹ 206.87 crore as at the end of previous year to ₹ 231.38 crore.

Other financial assets (Note-17)

Other financial assets excluding unbilled revenue are as under:

(₹ Crore)

Particulars	As at March 31	
	2018	2017
Other financial assets (Note-17)	7,938.12	6,053.32
Less: Unbilled revenue	7,574.60	5,718.67
Net Other current financial assets	**363.52**	**334.65**

Unbilled revenue consists of items viz. (i) sales for the month of March which is billed in April and (ii) other credits which are to be passed on to beneficiaries. For the financial year 2017-18, the credits, which are to be passed on to beneficiaries, have already been accounted for in sales. Unbilled revenue of ₹ 7,574.60 crore (31 March 2017: ₹ 5,718.67 crore) is net of credits to be passed to beneficiaries at the time of billing and includes ₹ 6,932.84 crore (31 March 2017: ₹ 7,496.34 crore) billed to the beneficiaries after 31st March for energy sales.

Other current financial assets mainly include advances to subsidiary and joint venture companies and other related parties, employees & others, dividend receivable and finance lease receivables.

Other current assets (Note-18)

Other current assets comprise of security deposits, advances to related parties, contractors and suppliers, short term advances to employees, claims recoverable etc.

(₹ Crore)

Particulars	As at March 31		% Change
	2018	2017	
Security deposits (unsecured)	1,021.21	950.81	7%
Advances	7,230.07	1,140.36	534%
Claims recoverable	2,547.98	2,367.47	8%
Others	78.97	77.80	2%
Total	**10,878.23**	**4,536.44**	**140%**

Other current assets have increased from ₹ 4,536.44 crore as at 31 March, 2017 to ₹ 10,878.23 crore as at 31 March, 2018. This increase is mainly due to advance of ₹ 5,000.00 crore (31 March 2017: ₹ Nil) paid to Indian Railways during the year, towards advance railway freight to be adjusted against freight payable on coal transportation during the financial year 2018-19 pursuant to an agreement entered into with Indian Railways, Ministry of Railways, GoI.

Claims recoverable include claims against railways of ₹ 1,227.75 crore (31 March 2017: ₹ 1,488.82 crore) which are mainly towards diverted out coal wagons.

6 Regulatory deferral account debit balances (Note-19) & Regulatory deferral account credit balances (Note-35)

Expense/income recognised in the Statement of Profit & Loss to the extent recoverable from or payable to the beneficiaries in subsequent periods as per CERC Tariff Regulations are recognised as 'Regulatory deferral account balances'. Regulatory deferral account balances are adjusted from the year in which the same become recoverable from or payable to the beneficiaries.

CERC Tariff Regulations provide for truing up of capital expenditure, subject to prudence check, considering inter-alia change in laws. Considering the methodology followed by the CERC in the previous pay revision and the provisions of CERC Tariff Regulations, 2014, regulatory asset has been created towards the increase in O&M expenditure due to the pay revision and increase in the gratuity limit from ₹ 0.10 crore to ₹ 0.20 crore. This will be claimed upon implementation of revision of pay scales and discharge of related liabilities. Accordingly, an amount of ₹ 118.32 crore for the year ended 31 March 2018 has been accounted for as 'Regulatory deferral account debit balance' (31 March 2017: ₹ 522.83 crore).

Further, exchange differences arising from settlement/ translation of monetary item denominated in foreign currency to the extent recoverable from or payable to the beneficiaries in subsequent periods as per CERC Tariff Regulations are recognised on an undiscounted basis as 'Regulatory deferral account debit/credit balance' by credit/debit to 'Movements in Regulatory deferral account balances' during construction period and adjusted from the year in which the same becomes recoverable from or payable to the beneficiaries. Accordingly, an amount of ₹ 584.72 crore for the year ended as at 31 March, 2018 has been accounted for as 'Regulatory deferral account debit balance' (31 March 2017: ₹ 187.09 crore accounted as 'Regulatory deferral account credit balance).

The regulatory assets recognised in the books to be recovered from the beneficiaries in future periods are as follows:

(₹ Crore)

Particulars	Regulatory Deferral Account Debit Balances
A. Opening balance as on 01 April, 2017	522.83
B. Addition during the year	697.03
C. Amount collected/refunded during the year	6.01
D. Amount transferred from regulatory deferral account credit balances (Note-35)	482.74
E. Regulatory deferral account balances recognised in the statement of profit and loss (B+C)	703.04
F. Closing balance as on 31 March, 2018 (A+B+C-D)	**743.13**

7 Total equity (Note-20 & Note-21)

The total equity of the Company at the end of financial year 2017-18 increased to ₹ 101,777.77 crore from ₹ 96,231.23 crore in the previous year, an increase of 6%. Major reasons for the same are tabulated below:

Particulars	Total Equity (₹ crore)	Book value per Share (₹)
Opening balance as on 01.04.2017	96,231.23	116.71
Add: Profit for the year	10,343.17	12.54
Add: Other comprehensive income and other adjustments to reserves	60.05	0.07
Less: Dividend & dividend tax	4,856.68	5.89
Balance as on 31.03.2018	**101,777.77**	**123.43**

The increase in net worth resulted in book value per share rising to ₹ 123.43 from ₹ 116.71 as at the end of previous year.

During the financial year 2017-18, Government of India (GoI) sold its 7.47% stake in the company by Offer for Sale through Stock Exchange Mechanism (6.63%), Employee Offer for Sale (0.12%) and Bharat 22 ETF (0.72%). Accordingly, GoI's stake in the company came down from 69.74% as at 31 March, 2017 to 62.27% as at 31 March, 2018.

8 Non-current and current liabilities (Note-22 to Note-33)

Details of non-current and current liabilities are discussed below:

a. Non-current financial liabilities-Borrowings (Note-22):

Total borrowings as at 31 March, 2018 were ₹ 1,15,104.29 crore in comparison to ₹ 1,03,839.65 crore as at 31 March, 2017. Current maturities out of long-term borrowings have been shown under current liabilities. Details of the total borrowings are as under:

(₹ Crore)

Particulars	As at March 31	
	2018	2017
Non-current borrowings in Non-current financial liabilities-Borrowings (Note-22)	1,08,697.60	97,339.28
Current maturities of non-current borrowings included in current liabilities - Other financial liabilities (Note-30)	6,406.69	6,500.37
Total borrowings*	**1,15,104.29**	**1,03,839.65**

*Includes adjustments for transaction costs on borrowings as per Ind-AS.

A summary of the borrowings outstanding is given below:

(₹ Crore)

Particulars	Non-current financial liabilities (Note-22)		Other current financial liabilities (Note-30)		Total borrowings		% Change
	2018	2017	2018	2017	2018	2017	
Secured							
Domestic bonds	30,850.32	33,059.00	2209.00	650.00	33,059.32	33,709.00	-2%
Others	0.70	1.62	0.72	0.78	1.42	2.40	-41%
Sub-total	**30,851.02**	**33,060.62**	**2,209.72**	**650.78**	**33,060.74**	**33,711.40**	**-2%**
Unsecured							
Foreign currency term loans/Notes/ Masala bonds	36,241.67	29,579.61	1,405.02	2,361.84	37,646.69	31,941.45	18%
Rupee term loans	41,455.53	34,573.80	2,758.41	3,470.38	44,213.94	38,044.18	16%
Others	149.38	125.25	33.54	17.37	182.92	142.62	28%
Sub-total	**77,846.58**	**64,278.66**	**4,196.97**	**5,849.59**	**82,043.55**	**70,128.25**	**17%**
Total	**1,08,697.60**	**97,339.28**	**6,406.69**	**6,500.37**	**1,15,104.29**	**1,03,839.65**	**11%**

As on 31 March, 2018, the foreign currency loan basket comprises of loans denominated in US Dollar, Japanese Yen and Euro which contributed about 68%, 14% and 18% respectively of the total foreign currency loans.

Over the last financial year, total borrowings have increased by 11%. Debt amounting to ₹ 17,230.49 crore was raised during the year 2017-18. The amount raised through term loans, bonds and foreign currency borrowings is used for capital expenditure, refinancing and recoupment of capital expenditure.

Details in respect of proceeds and repayment of borrowings for the financial year 2017-18 are as under:

(₹ Crore)

Source (Principal Amount)	Debt raised	Repayment	Net
Rupee term loans	10,125.00	3,955.23	6,169.77
Domestic bonds	-	650.00	-650.00
Foreign currency debts	7,105.49	2,361.34	4,744.15
Total	**17,230.49**	**6,966.57**	**10,263.92**
FERV on foreign currency borrowings			**1,059.31**
Transaction costs			**-97.91**
Others (Finance lease obligations)			**39.32**
Total			**11,264.64**

Term loans: Banks and domestic financial institutions continued to support the capex program of the Company by extending term loans for financing the on-going capacity expansion plans. During the financial year 2017-18, agreements for term loans of ₹ 12,032.50 crore were entered into with various banks. An amount of ₹ 10,125 crore was drawn from domestic banks & financial institutions during the year and an amount of ₹ 3,955.23 crore was repaid during the year. The undrawn balance available under various sanctioned loans from domestic banks and financial institutions was ₹ 10,357.50 crore as on 31 March, 2018.

Domestic bonds: During the financial year 2017-18, Bonds amounting to ₹ 650.00 crore were redeemed. The principal amount of bonds outstanding as on 31 March, 2018 is ₹ 33,062.33 crore.

Foreign currency debts: During the financial year 2017-18, the Company raised foreign currency borrowings of ₹ 2,000 crore through issue of Rupee denominated bonds (Masala bonds) & USD 400 million through issue of Eurobonds under the USD 6 billion MTN programme. Both these bonds are listed at Singapore Stock Exchange, London Stock Exchange & India International Exchange (India-INX).

Masala bonds are in the nature of senior unsecured fixed rate notes having a coupon of 7.25%. The bonds are due for bullet repayment in May 2022. The proceeds of the bonds have been utilised to finance the capital expenditure incurred on various ongoing power projects of the Company during the financial year 2017-18.

The Euro bonds are in the nature of senior unsecured fixed rate notes having a coupon of 4.50%. The bonds are due for bullet repayment in March 2028. An amount of ₹ 2,585.39 crore was received as proceeds against the issuance of these bonds. As against this, an amount of ₹ 841.50 crore was utilised till 31 March, 2018 to part finance the capital expenditure incurred on various ongoing power projects of the Company.

During the financial year 2017-18, the Company also signed a syndicated facility agreement for JPY 39.41 billion. The loan has an average maturity of 10 years at floating interest rate. The proceeds of the loan have been utilised to finance the capital expenditure incurred on various ongoing power projects of the Company.

Under the existing loan facilities available from JBIC and KfW, during the year the Company has drawn ₹ 236.99 crore towards capital expenditure of various projects.

In all, the Company has drawn ₹ 7,105.49 crore (including ₹ denominated bonds of ₹ 2000 Crore) during the year from foreign currency loans and repaid foreign currency debts amounting to ₹ 2,361.34 crore. The principal amount of ₹ equivalent of foreign borrowings outstanding as on 31.03.2018 is ₹ 37,810.61 crore.

The Company continues to enjoy highest credit ratings for its bonds programme and borrowings from banks, while Company's International Ratings are at par with sovereign ratings as detailed hereunder:

Credit Rating Agency	Rating	Remarks
Domestic		
CRISIL	CRISIL AAA	Highest ratings
ICRA	ICRA AAA (Stable)	
CARE	CARE AAA	
International		
S&P	BBB-Stable	Equivalent to sovereign ratings
Fitch	BBB-Stable	
Moody's	Baa2	

The debt to equity ratio at the end of financial year 2017-18 of the Company increased to 1.14. The Debt Service Coverage Ratio (DSCR) and Interest Service Coverage Ratio (ISCR) for financial year 2017-18 are 2.14 and 5.93 respectively.

Formula used for computation of coverage ratios DSCR = Earnings before Interest, Depreciation, Tax and Exceptional items/(Interest net of transferred to expenditure during construction + Principal repayment) and ISCR = Earnings before Interest, Depreciation, Tax and Exceptional items/(Interest net of transferred to expenditure during construction).

The maturity profile of the principal amount of borrowings by the Company is as under:

(₹ Crore)

Particulars**	Domestic Borrowings	Foreign Borrowings	Total*
Within 1 year	4,967.41	1,405.02	6,372.44
2 – 3 years	9,271.67	4,761.21	14,032.88
4 – 5 years	13,041.43	12,599.25	25,640.68
6 – 10 years	34,460.12	15,293.97	49,754.09
Beyond 10 years	15,535.64	3,751.16	19,286.79
Total	**77,276.27**	**37,810.61**	**1,15,086.88**

*Excluding transaction costs ** The year indicates Financial year

b. Non-current financial liabilities-Trade payables (Note-23) & Other financial liabilities (Note-24)

Non-current trade payables has increased from ₹ 13.17 crore as at 31 March, 2017 to ₹ 23.31 crore as at 31 March, 2018.

Other financial liabilities primarily consist of liabilities for capital expenditure and others. Liabilities for capital expenditure has decreased from ₹ 1,999.77 crore as at 31 March, 2017 to ₹ 1,970.71 crore as at 31 March, 2018. Liabilities for capital expenditure which are due for payment within 12 months from the reporting date have been classified under 'Other current financial liabilities' (Note-30).

c. Non-current liabilities- Provisions (Note-25):

Non-current provisions consist of amounts provided towards employees benefits as per actuarial valuation which are expected to be settled beyond a period of 12 months from the Balance Sheet date. Non-current provisions as at 31 March, 2018 were ₹ 480.90 crore as compared to ₹ 463.15 crore as at 31 March, 2017.

d. Non-current liabilities - Deferred tax liabilities (net) (Note-26):

Deferred tax liabilities (net) have increased from ₹ 1,484.84 crore as at 31 March, 2017 to ₹ 2,408.63 crore as at 31 March, 2018. Increase in deferred tax provision is mainly due to accelerated depreciation for solar and wind units capitalised during financial year 2017-18.

CERC Regulations, 2014 provide for recovery of deferred tax liability as on 31 March, 2009 from the beneficiaries. Accordingly, deferred tax liability as on 31 March, 2009 is recoverable on materialization from the beneficiaries. For the period commencing from 01 April, 2014, Regulations, 2014 provide for grossing up of the return on equity based on effective tax rate for the financial year based on the actual tax paid during the year on the generation income. Deferred asset for deferred tax liability for the year will be reversed in future years when the related deferred tax liability forms part of current tax.

The net increase during the year in the deferred tax liability of ₹ 923.79 crore (31 March 2017: increase of ₹ 332.63 crore) has been debited to the Statement of Profit and Loss.

e. Other non-current liabilities (Note-27):

Other non-current liabilities represented deposits received for Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY). Other non-current liabilities as at 31 March, 2018 are ₹ Nil as compared to ₹ 17.49 crore as at 31 March, 2017.

f. Current liabilities (Note-28 to Note-33):

The current liabilities as at 31 March, 2018 were ₹ 42,554.76 crore as against ₹ 36,177.32 crore as at the end of previous year. The break-up of current liabilities is as under:

(₹ Crore)

Particulars	As at March 31		Y-o-Y Change	% Change
	2018	2017		
Borrowings (Note-28)	6,500.32	3,000.56	3,499.76	117%
Trade payables (Note-29)	5,592.64	4,876.08	716.56	15%
Other financial liabilities (Note-30)	21,408.98	19,179.40	2,229.58	12%
Other current liabilities (Note-31)	963.99	1,081.16	-117.17	-11%
Provisions (Note-32)	8,088.83	7,964.92	123.91	2%
Current tax liabilities (net) (Note-33)	-	75.20	-75.20	-100%
Total	**42,554.76**	**36,177.32**	**6,377.44**	**18%**

In order to finance the mismatches in the short-term fund requirement, short term borrowings (Note-28) in the form of commercial papers was resorted to by the Company. The commercial papers outstanding as on 31 March, 2018 were ₹ 6,500 crore as against ₹ 3,000 crore as on 31 March, 2017.

The trade payables (Note-29) mainly comprise amount payable towards supply of goods & services, deposits & retention money from contractors. Trade payables have increased by ₹ 716.56 crore i.e. from ₹ 4,876.08 crore as at 31 March, 2017 to ₹ 5,592.64 crore as at 31 March, 2018.

Other current financial liabilities (Note-30) mainly comprise of current maturities of long term borrowings, interest accrued but not due on borrowings and payables towards capital expenditure. The details of other current financial liabilities are as under:

(₹ Crore)

Particulars	As at March 31	
	2018	2017
Other current financial liabilities	21,408.98	19,179.40
Less: Current maturities of long term borrowings and finance lease obligations	6,406.69	6,500.37
Interest accrued but not due on borrowings	1,254.96	1,160.92
Other current liabilities (net)	**13,747.33**	**11,518.11**

Other current financial liabilities have increased mainly due to increase in payables for capital expenditure which has increased from ₹ 9,578.24 crore as on 31 March, 2017 to ₹ 11,813.97 crore as on 31 March, 2018 and also due to payables to employees which has increased from ₹ 516.88 crore as on 31 March, 2017 to ₹ 735.95 crore as on 31 March, 2018.

Other current liabilities (Note-31) consists mainly of advances from customers and others and statutory dues. The main reasons for decrease of other current liabilities is due to decrease in advance received for the implementation of DDUGJY Scheme of the GOI from ₹ 597.75 crore as on 31 March, 2017 to ₹ 313.97 crore as on 31 March, 2018. However, it has been offset to some extent by increase in statutory dues from ₹ 391.06 crore as on 31 March, 2017 to ₹ 509.66 crore as on 31 March, 2018.

Current liabilities-provisions (Note-32) mainly consist of provisions for employee benefits, provision for obligations incidental to land acquisition, provision for tariff adjustment and other provisions. As at 31 March, 2018, Company had outstanding current liabilities-provisions of ₹ 8,088.83 crore as against ₹ 7,964.92 crore as at 31 March, 2017.

The provision for employee benefits has increased from ₹ 2,388.05 as on 31 March, 2017 to ₹ 2,936.65 crore as on 31 March, 2018. The increase in provision for employee benefits is due to provision for pay revision of the employees of the Company which was due w.e.f. 1 January 2017. Department of Public Enterprises, GOI (DPE) had constituted the 3rd Pay Revision Committee (PRC) to review the structure of pay scales and allowances/benefits of various categories of Central Public-Sector Enterprises. Based on the recommendations of the 3rd PRC, DPE has issued broad guidelines for pay revision. Based on Company proposal to GOI on 06 Septermber, 2017, presidential directive had been issued on 10 May, 2018. Presidential directive states adherence of relevant DPE Guidelines which requires approval of the Board of Directors (BOD) of the Company. Pending approval by the BOD as on 31 March, 2018, provision for pay revision had been recognised on an estimated basis amounting to ₹ 1,203.28 crore as at 31 March, 2018 (31 March 2017: ₹ 260.24 crore).

As a prudent and conservative policy, provision for tariff adjustment has been created in the books to the extent of the impact of the challenged issues of the APTEL judgement and the interest thereon pending the disposal of appeal filed by the CERC with the Hon'ble Supreme Court of India.

During the year, the Hon'ble Supreme Court of India dismissed the appeal filed by the CERC for tariff orders of the period 2004-09 and accordingly the directions of APTEL to CERC stands good. Keeping in view the same, provision amounting of ₹ 1,156.32 crore made till 31 March, 2017 towards anticipated tariff adjustments, has been written back during the year.

Overall tariff provision of ₹ 318.28 crore (31 March 2017: ₹ 98.88 crore) has been made during the year and an amount of ₹ 1,158.97 crore (31 March 2017: ₹ 162.49 crore) has been written back. Accordingly, provision for tariff adjustments have reduced from ₹ 1170.79 crore as at 31 March, 2017 to ₹ 330.10 crore as at 31 March, 2018.

Other provisions include ₹ 73.15 crore (31 March 2017: ₹ 68.24 crore) towards cost of unfinished minimum work programme demanded by the Ministry of Petroleum and Natural Gas (MoP&NG) including interest thereon in relation to block AA-ONN-2003/2, ₹ 1,279.31 crore (31 March 2017: ₹ 640.25 crore) towards provision for cases under litigation and ₹ 4.62 crore (31 March 2017: ₹1.81 crore) towards provision for shortage in property, plant and equipment on physical verification pending investigation.

Current tax liabilities (net) (Note-33) have reduced from ₹ 75.20 crore as at 31 March, 2017 to Nil as at 31 March, 2018.

9 Deferred revenue (Note-34)

Deferred revenue consists of three items detailed as under:

(₹ Crore)

Deferred revenue on account of	As at March 31	
	2018	2017
Advance Against Depreciation (AAD)	74.35	247.02
Income from foreign currency fluctuation	1,435.35	1,376.67
Government grants	576.20	497.45
Total	**2,085.90**	**2,121.14**

AAD was an element of tariff provided under the CERC Tariff Regulations for the period 2001-04 and 2004-09 to facilitate debt servicing by the generators since it was considered that depreciation recovered in the tariff, considering a useful life of 25 years, is not adequate for debt servicing. Though this amount is not repayable to the beneficiaries, keeping in view the matching principle, and in line with the opinion of the EAC of the ICAI, this was treated as deferred revenue to the extent depreciation chargeable in the accounts is considered to be higher than the depreciation recoverable in tariff in future years. Accordingly, the amount of AAD considered as deferred revenue in earlier years is included in sales, to the extent depreciation recovered in tariff during the year is lower than corresponding depreciation charged in accounts. Thus, an amount of ₹ 297.91 crore (31 March 2017: ₹ 32.92 crore) has been recognized as sales during the year ended 31 March, 2018. The AAD recognized during the year includes ₹ 125.24 crore for the tariff period 2004-09 in respect of one of the stations as per CERC order during the year and the same has also been recognized as energy sales during the year.

Foreign exchange rate variation (FERV) on foreign currency loans and interest thereon is recoverable from/payable to the customers in line with the Tariff Regulations. Keeping in view the opinion of the EAC of ICAI, the Company is recognizing deferred foreign currency fluctuation asset by corresponding credit to deferred income from foreign currency fluctuation in respect of the FERV on foreign currency loans adjusted in the cost of fixed assets, which is recoverable from the customers in future years as per accounting policy. This amount will be recognised as revenue corresponding to the depreciation charge in future years. The amount does not constitute a liability to be discharged in future periods and hence, it has been disclosed separately from shareholder's funds and liabilities.

Government grants include ₹ 575.93 crore (31 March 2017: ₹ 497.14 crore) received from Solar Energy Corporation of India under MNRE Scheme for setting up solar PV power projects.

B. Results from operations

1 Total revenue (Note 36 & 37)

Sl.	Particulars	FY 2017-18	FY 2016-17	Change
	Units of electricity sold (MUs)	**247,905**	**233,617**	**6%**
	Revenue			**₹ Crore**
1	Energy sales (Including electricity duty)	79,673.58	77,071.11	3%
2	Sale of energy through trading	1,439.58	-	-
3	Consultancy & other services	182.80	163.71	12%
4	Lease rentals on assets on operating lease	233.13	240.42	-3%
5	Energy internally consumed	63.41	68.93	-8%
6	Interest from beneficiaries	487.54	397.09	23%
7	Provisions for tariff adjustments written back	1,158.97	162.49	613%
8	Interest income on assets under finance lease	166.52	154.31	8%
9	Recognised from deferred revenue-government grant	36.00	15.38	134%
10	Sale of energy saving certificates	11.17	-	-
	Revenue from operations	**83,452.70**	**78,273.44**	**7%**
11	Other income	1,755.25	1,068.86	64%
	Total revenue	**85,207.95**	**79,342.30**	**7%**

The revenue of the Company comprises of income from energy sales, sale of energy through trading, consultancy and other services, operating lease rentals on assets, interest and surcharge received from the beneficiaries, interest earned on investments such as term deposits with banks, interest on loan to employees & subsidiary companies and dividend income from mutual funds and long-term investment in subsidiary & joint venture companies. The total revenue for financial year 2017-18 is ₹ 85,207.95 crore as against ₹ 79,342.30 crore in the previous year registering an increase of 7%. The main reasons for increase in total revenue are increase in the energy sales, increase in revenue from consultancy & other services, increase in interest and surcharge received from beneficiaries and also increase in provisions for tariff adjustments written back as explained elsewhere in the section.

The major revenue comes from energy sales. The tariff for computing energy sales is determined in terms of CERC Regulations as notified from time to time, which are briefly discussed below:

Tariff for computation of sale of energy (Note-36)

The CERC notified the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (Regulations, 2014) on 21 February, 2014 for the period 2014-19. Pending issue of final/provisional tariff orders for some stations under Regulations, 2014 by the CERC, sales have been provisionally recognised on the basis of principles enunciated in Regulations, 2014. As per the Regulations, 2014, the tariff for supply of electricity comprises of two parts i.e. capacity charges for recovery of annual fixed cost based on plant availability and energy charges for recovery of fuel cost. In addition, Regulations also provide for the recovery of certain miscellaneous charges. The CERC sets tariff for each stage of a station in accordance with the notified tariff regulations/norms.

Capacity charges

With effect from 01 April, 2017, the capacity charges are allowed to be recovered in full if normative annual plant availability factor is at least 85%. If the availability of the plant is lower than 85%, the capacity charges are recovered on a pro-rata basis based on normative parameters as specified in the said Regulations.

Energy charges

Energy charges for the electricity sold are determined based on the landed cost of fuel applied on the quantity of fuel consumption derived considering norms for heat rate, auxiliary power consumption and specific oil consumption etc.

Other charges

Besides the capacity and energy charges, the other elements of tariff are:

- Deferred tax liability for the period before 01 April, 2009 on generation income is allowed to be recovered from the customers on materialization.
- Cost of hedging in respect of interest and repayment of foreign currency loans and exchange rate fluctuations for the un-hedged portion of interest and repayment of foreign currency loans on a normative basis.

In addition, the CERC (Deviation Settlement Mechanism and related matters) Regulations, 2014, provides for charges for the deviations in generation with respect to schedule, payable (or receivable) at rates linked to average frequency to bring grid discipline and security.

Further, compensation for degradation of heat rate, auxiliary power consumption and secondary fuel consumption due to part load operations and Multiple Start/Stop of Units are being accounted as per CERC order dated 05.05.2017 relating to operating procedures and the compensation mechanism in terms of Grid Code, which has come in force w.e.f. 15.05.2017. Each element of total revenue is discussed below:

Energy sales (including electricity duty)

Your Company sells electricity to bulk customers, mainly electricity utilities owned by State Governments as well as private Discoms operating in States. Sale of electricity is generally made pursuant to long-term Power Purchase Agreements (PPAs) entered into with the beneficiaries.

Income from energy sales (including electricity duty) for the financial year 2017-18 was ₹ 79,673.58 crore constituting 94% of the total revenue. The income from energy sales (including electricity duty) has increased by 3% over the previous year's income of ₹ 77,071.11 crore.

During the year, there is an increase in the commercial capacity by 3,978 MW as detailed below:

Project/Unit	Capacity (MW)	Commercial Operation Date
Kudgi U# 1	800	31.07.2017
Mandsaur Solar	250	01.09.2017
Mauda II U# 4	660	18.09.2017
Solapur U# 1	660	25.09.2017
Unchahar U# 6	500	30.09.2017
Bongaigaon U# 2	250	01.11.2017
Rojmal Wind	50	10.11.2017
Kudgi U# 2	800	31.12.2017
Small Hydro	8	05.03.2018
Total	**3,978**	

Further, the commercial capacity of 1,170 MW comprising Unit#1 of 660 MW of Mauda-II, 250 MW of Solar capacity at Ananthpuram and 260 MW of Solar Capacity at Bhadla Solar, which were declared under commercial operation during the financial year 2016-17, were available for the entire financial year 2017-18 as compared to part of financial year 2016-17.

The CERC has issued tariff orders for some of the stations for the period 2014-19 under Regulations 2014, and beneficiaries are billed based on such tariff orders issued by the CERC. For other stations, beneficiaries are billed in accordance with the principles given in the Regulations 2014. The energy charges in respect of the coal-based stations are provisionally billed based on the GCV of coal 'as received', measured at wagon top samples in respect of most of the stations barring a few on the grounds of safety issues, for the quantity supplied through conveyors/road and other difficulties. The amount provisionally billed is ₹ 80,670.65 crore (31 March 2017: ₹ 74,710.65 crore).

Your Company has filed a writ petition before the Hon'ble Delhi High Court contesting certain provisions of the Regulations, 2014. As per directions from the Hon'ble High Court on the issue of point of sampling for measurement of GCV of coal on 'as received' basis, CERC has issued an order dated 25.01.2016 (subject to final decision of the Hon'ble High Court) that samples for measurement of coal on 'as received' basis should be collected from wagon top at the generating stations. The Company's review petition before the CERC in respect of the above order was dismissed vide their order dated 30.06.2016. Vide order dated 10.11.2016, the Hon'ble Delhi High Court has permitted your Company to approach the CERC with the difficulties being faced in implementation of the order of CERC in this regard. Accordingly, the Company has filed a petition with the CERC dated 29.11.2016. In the meantime, CEA vide letter dated 17.10.2017 has informed Ministry of Power (MoP) that the margin of loss in GCV between as fired and as received would vary from plant to plant, season to season and varying coal characteristics and also opined that a margin of 85-100 Kcal/Kg for a pit head station and a margin of 105-120 Kcal/Kg for a non-pit head station may be considered as a loss of GCV of coal between as received and as fired. The petition is yet to be disposed off by CERC.

Pending disposal of the petition by the CERC and ratification by the Hon'ble Delhi High Court, measurement of GCV of coal is being done from wagon top samples in respect of most of the stations barring a few on the grounds of safety issues, for the quantity supplied through conveyors/road and other difficulties.

Sales have been provisionally recognised at ₹ 79,683.50 crore (31 March 2017: ₹ 75,800.54 crore) on the said basis (Note 36(b)).

Sales include ₹ 6.44 crore (31 March 2017: ₹ 995.59 crore) pertaining to previous years recognised based on the orders issued by the CERC/Appellate Tribunal for Electricity (APTEL). This includes reversal of sales amounting to ₹ 267.99 crore in respect of one of the stations, considering the directions issued by the CERC on 28.09.2017. Also, sales for the year amounting to ₹ 96.73 crore has not been recognized considering the said directions. (Note 36(c))

Sales include ₹ 210.33 crore (31 March 2017: ₹ Nil) on account of income tax refundable to the beneficiaries as per Regulations, 2004. Sales also include ₹ 66.98 crore (31 March 2017: ₹ 46.04 crore) on account of deferred tax materialised which is recoverable from beneficiaries as per Regulations, 2014 (Note 36 (d)). Energy sales include electricity duty amounting to ₹ 879.77 crore (31 March 2017: ₹ 697.99 crore).

The average tariff for the financial year 2017-18 is ₹ 3.23/kWh as against ₹ 3.30/kWh in the previous year. The average tariff includes adjustments pertaining to previous years. If the impact of such adjustments were to be excluded, the average tariff would be ₹ 3.23/kWh in financial year 2017-18 as against ₹ 3.26/kWh in the previous year.

There has been 100% realization of the dues within the stipulated period for the fifteenth year in succession. Most of the beneficiaries have opened and are maintaining letter of credit equal to or more than 105% of average monthly billing. In order to ensure prompt and early payment of bills for supply of energy to beneficiaries, your Company has formulated a rebate scheme by way of providing graded incentive for early payment based on the bill (s) raised on state utilities who are the members of NTPC's rebate scheme. The rebate is netted off from energy sales.

Tripartite agreements have been signed/extended by 29 states/union territories. The tripartite agreements for remaining states are likely to be signed shortly.

Sale of energy through trading

Your Company has entered into new vertical of sale of energy through trading. During the financial year, your Company has accounted sales of energy purchased from solar power plants set up under National Solar Mission of ₹ 1,439.58 crore (31 March 2017: ₹ Nil).

Consultancy and other services

Accredited with an ISO 9001:2008 certification, the Consultancy Division of your Company undertakes consultancy and turnkey project contracts for domestic and international clients in the different phases of power plants viz. engineering, project management, construction management, operation & maintenance of power plants, research & development, management consultancy etc.

During the financial year 2017-18, Consultancy Division posted an income of ₹ 154.67 crore as against ₹ 132.72 crore achieved in the last financial year. In the financial year 2017-18, it has earned a profit before tax of ₹ 57.08 crore. Orders valued at ₹ 386.89 crore were secured by the division during the year.

Lease rentals on assets on operating lease

As per the provisions of Appendix C to Ind AS 17 Leases w.r.t. determining whether an arrangement contains a lease, the Company has ascertained that the PPA entered into for two of the power stations fall under operating lease. Recovery of capacity charges towards depreciation (including AAD), interest on loan capital & return on equity (pre-tax) components from the beneficiaries are considered as lease rentals on the assets which are on operating lease. Accordingly, the lease rentals amounting to ₹ 233.13 crore has been recognised in the financial year 2017-18 as compared to ₹ 240.42 crore in the last financial year.

Energy internally consumed

Energy internally consumed relates to own consumption of power for construction works at station(s), township power consumption, etc. It is valued at variable cost of generation and is shown in 'Revenue from operations' with a debit to corresponding expense head under power charges. There is 8% decrease in the value of energy internally consumed during the year over the previous year mainly due to decrease in fuel cost.

Interest from beneficiaries

CERC Regulations provide that where after the truing-up, the tariff recovered is less than the tariff approved by the CERC, the Company shall recover from the beneficiaries the under recovered amount along-with simple interest. Accordingly, the interest recoverable from the beneficiaries amounting to ₹ 487.54 crore (31 March 2017: ₹ 397.09 crore) has been recognized as Interest from beneficiaries.

Provisions written back

During the financial year 2017-18, the Company had written back provisions for tariff adjustments made in earlier years amounting to ₹ 1,158.97 crore in comparison to ₹ 162.49 crore in the financial year 2016-17. Substantial increase in provision for tariff adjustments written back is due to an amount of ₹ 1,156.32 crore written back during the year pursuant to an order of the Hon'ble Supreme Court of India, in favour of the Company.

Interest income on assets on finance lease

As per the provisions of Appendix C to Ind AS 17 Leases w.r.t. determining whether an arrangement contains a lease, the Company has ascertained that the PPA entered into for Stage-I of a power station with the beneficiary falls under the definition of finance lease. Accordingly, the written down value of the specified assets has been derecognized from PPE and accounted as Finance lease receivable (FLR). Recovery of capacity charges towards depreciation (including AAD), interest on loan capital & return on equity (pre-tax) components from the beneficiary are adjusted against FLR. The interest component of the FLR and amount received on account of revision of tariff of previous periods in respect of the above three elements are recognized as 'Interest income on Assets under finance lease'. Accordingly, an amount of ₹ 166.52 crore has been recognized in the financial year 2017-18 as compared to ₹ 154.31 crore in the last financial year.

Other income (Note 37)

'Other income' mainly comprises income from interest on term deposits with banks, interest on loan to employees, dividend from investments in subsidiary & joint venture companies and 'Other non-operating income' comprising mainly surcharge received from beneficiaries, gain on sale of current investments, sale of scrap & miscellaneous income.

'Other income' in financial year 2017-18 was ₹ 1,755.25

crore as compared to ₹ 1,068.86 crore in the financial year 2016-17. Broadly, the break-up of other income is as under:

(₹ Crore)

Particulars	FY 2017-18	FY 2016-17
Interest on OTSS bonds /Loan to State Government	-	2.03
Income from deposits/loans, current investment in mutual funds, profit on redemption of current investments	229.39	97.30
Dividend from JVs and Subsidiary Companies/Interest from Subsidiary Company	202.39	168.16
Income earned on other heads such as surcharge from beneficiaries , hire charges, profit on disposal of assets, etc.	1,377.97	879.30
Total	**1,809.75**	**1,146.79**
Less: Transfer to EDC/ development of coal mines/ hedging cost recoverable/ (payable) to/from beneficiaries	54.50	77.93
Net other income	**1,755.25**	**1,068.86**

Interest income from OTSS bonds (including loan to State Government) for financial year 2017-18 is ₹ Nil as compared to ₹ 2.03 crore in financial year 2016-17 due to complete redemption of OTSS bonds and repayment of loan in lieu of settlement of dues to State Government during financial year 2016-17. The Company has earned income of ₹ 229.39 crore during the financial year 2017-18 on account of term deposits made in banks, investments in mutual funds and redemption of current investments as against ₹ 97.30 crore earned last year. The income from investment in bank term deposits, mutual funds etc. has registered an increase of 136% from last financial year attributed to increase in earnings on account gain on sale of investments from ₹ 24.81 crore to ₹ 137.51 crore and increase in average annual investment from ₹3,348 crore in financial year 2016-17 to ₹ 4,713 crore in financial year 2017-18.

We have earned ₹ 185.57 crore as dividend from our investments in subsidiaries and joint venture companies. Further, ₹ 16.82 crore has been earned as interest from loan to subsidiary companies. Also, an amount of ₹ 1,377.97 crore has been earned from various other sources mainly consisting of surcharge received from beneficiaries ₹ 507 crore, income tax refund ₹ 405.69 crore, miscellaneous income of ₹ 161.35 crore, sale of scrap ₹ 136.90 crore, interest on loans to employees ₹59.35 crore and interest from contractors ₹ 38.48 crore.

2. Expenses (Statement of Profit & Loss and Note-38, 39, 40 & 41)

2.1 Expenses related to operations

Particulars	FY 2017-18		FY 2016-17	
Commercial generation (MUs)	**265,003**		**250,086**	
Expenses				
	₹ Crore	₹ per kWh	₹ Crore	₹ per kWh
Fuel	48,315.47	1.82	47,572.19	1.90
Employee benefits expense	4,734.67	0.18	4,324.60	0.17
Other expense	7,421.73	0.28	5,092.38	0.21
Total	**60,471.87**	**2.28**	**56,989.17**	**2.28**

The expenditure incurred on fuel, employee benefits expense and other expenses for the financial year 2017-18 was ₹ 60,471.87 crore as against the expenditure of ₹ 56,989.17 crore incurred during the previous year. In terms of expenses per unit of power produced, it was ₹ 2.28 per unit in financial year 2017-18 and same as in financial year 2016-17. Component-wise, there has been increase in the fuel cost, employee benefits expenses and in the other expenses. The increase in commercial generation due to commercial operation of new units i.e. units declared under commercial operations during the year as well as units declared under commercial operation during financial year 2016-17 which were under operation for part of the previous year as against under operation for full year during the current year has resulted in an additional operational expenditure of ₹ 3,045.09 crore.

A discussion on each of these components is given below:

2.1.1 Fuel

Expenditure on fuel constituted 80% of the total expenditure relating to operations. Expenditure on fuel was ₹ 48,315.47 crore in financial year 2017-18 in comparison to ₹ 47,572.19 crore in financial year 2016-17 representing an increase of 1.56%. The break-up of fuel cost in percentage terms is as under:

Particulars	FY 2017-18	FY 2016-17
Fuel cost (₹ Crore)	**48,315.47**	**47,572.19**
		% break-up
Coal	94.02%	95.09%
Gas	5.28%	4.29%
Oil	0.66%	0.60%
Naphtha	0.04%	0.02%

For the financial year 2017-18, the expenditure towards coal has increased, due to increase in the coal-based commercial generation from 237.735 BUs to 251.561 BUs.

The expenditure towards gas has increased due to increase in the gas consumption and generation from gas-based units. A part of increase in the expenditure towards gas is also attributable to the increase in average price of gas during the financial year 2017-18 as compared to previous year.

The expenditure towards other component of fuel cost i.e. oil and naphtha have also increased. The increase in the expenditure towards oil is due to higher average price during the financial year 2017-18 as compared to previous year and the increase in the expenditure towards naphtha is mainly due to higher average price during the financial year 2017-18 as compared to previous year.

An increase of ₹ 2,383.94 crore in fuel cost is attributable to new commercial capacity added during the year as well as on commercial capacity added during previous year which was operational for part of the previous year as compared to full year operations during the current year.

Overall, fuel cost per unit generated decreased to ₹ 1.82 in financial year 2017-18 from ₹ 1.90 in financial year 2016-17.

The power plants of the Company use coal and natural gas as the primary fuels. Oil is used as a secondary fuel for coal-fired plants and naphtha as an alternate fuel in gas-fired plants. Under the tariff norms set by the CERC, your Company is allowed to pass on fuel charges through the tariff, provided the Company meets specified operating parameters.

2.1.2 Employee benefits expense (Note 38)

Employee remuneration and benefits expense include salaries & wages, bonuses, allowances, benefits, contribution to provident & other funds and welfare expenses.

Employee benefits expense have increased from ₹ 4,324.60 crore in financial year 2016-17 to ₹ 4,734.67 crore in financial year 2017-18.

Of the total increase in employee benefits expense, an increase of ₹ 157.02 crore is attributable to new commercial capacity added during the year as well as on commercial capacity added during previous year which was operational for part of the previous year as compared to full year operations during the current year. Further, there is an increase in employee benefit expenses due to pay revision provision which was due from 01 January, 2017 and has been recognized on an estimated basis.

In terms of expenses per unit of generation, it is ₹ 0.18 in financial year 2017-18 as compared ₹ 0.17 in previous financial year. These expenses account for approximately 8% of operational expenditure in financial year 2017-18.

2.1.3 Other expenses (Note 41)

Other expenses consist primarily the expenses for repair and maintenance of plant & machinery, buildings, water charges, security, corporate social responsibility, electricity duty, contribution to water conservation fund, travelling, power charges, insurance, training and recruitment and provisions. These expenses are approximately 12% of operational expenditure in financial year 2017-18. In absolute terms, these expenses increased to ₹ 7,421.73 crore in financial year 2017-18 from ₹ 5,092.38 crore in financial year 2016-17, registering an increase of 46%.

During the financial year 2017-18, the increase in other expenses is mainly on account of demand of water charges pertaining to earlier years in case of one power station amounting to ₹ 305.55 crore, adverse impact of ERV to the tune of ₹ 737.04 crore in comparison with previous year. Repair & maintenance expenses constitute 37% of total other expenses and have increased by ₹ 445.26 crore in comparison with previous year, resulting in an increase of 19%.

In terms of expenses per unit of generation, it is ₹ 0.28 in financial year 2017-18 as compared to ₹ 0.21 in previous financial year. An increase of ₹ 504.13 crore is on account of new commercial capacity added during the year as well as on commercial capacity added during previous year which was operational for part of the previous year as compared to full year operations during the current year.

Other expenses also include provisions amounting to ₹ 842.99 crore made during the year as against ₹ 161.10 crore in previous year. Provisions mainly include provision of

₹ 318.28 crore towards tariff adjustments, ₹ 21.95 towards obsolescence in stores, ₹ 17.59 crore towards impairment in the value of investment by the Company in two joint venture companies i.e. NTPC BHEL Power Projects Private Ltd. ₹ 16.91 crore and ₹ 0.68 crore in BF-NTPC Energy Systems Ltd., ₹ 4.92 crore towards unfinished minimum work programme for oil and gas exploration and provision of ₹ 359.48 crore towards unserviceable capital works.

2.2 Energy purchased for trading

Company has incurred expenditure of ₹ 1,313.51 crore on purchase of energy for trading during the financial year 2017-18 from solar power plants set up under National Solar Mission.

2.3 Finance costs (Note 39)

The finance costs for the financial year 2017-18 are ₹ 3,984.25 crore in comparison to ₹ 3,597.20 crore in financial year 2016-17. The details of interest and other borrowing costs are tabulated below:

(₹ Crore)

Particulars	FY 2017-18	FY 2016-17
Interest on:		
Borrowings	7,476.64	7,124.72
Unwinding of discount on vendor liabilities and discount on commercial papers	349.41	550.60
Others	1.73	0.47
Total interest	**7,827.78**	**7,675.79**
Other borrowing costs	38.31	46.49
Exchange differences regarded as adjustment to interest costs	274.05	-
Total	**8,140.14**	**7,722.28**
Less: Transfers to		
Expenditure during construction period	3,958.95	4,005.33
Development of coal mines	196.94	119.75
Net interest and other borrowing costs	**3,984.25**	**3,597.20**

Total interest (including interest during construction) has increased by 2% over last financial year due to increase in both long-term and short-term borrowings. The long-term borrowings as on 31 March, 2018 was ₹ 115,104.29 crore as against ₹ 103,839.65 crore as on 31 March, 2017. Further short-term borrowing also increased to ₹ 6,500.32 crore as on 31 March, 2018 from ₹ 3,000.56 crore as on 31 March, 2017. For the financial year 2017-18, the average cost of borrowing has decreased to 6.99% from 7.44% in previous financial year. The decrease in the average cost of borrowing is because of lower rate of interest on new borrowings.

For the financial year 2017-18, an amount of ₹ 3,958.95 crore relating to finance costs of projects under construction was capitalised while the corresponding amount for the previous year was ₹ 4,005.33 crore. In addition, ₹ 196.94 crore has been capitalised in respect of development of coal mines as against ₹ 119.75 crore in previous year.

2.4 Depreciation, amortization and impairment expense (Note 40)

The depreciation and amortization expense charged to the Statement of Profit and Loss during the financial year 2017-18 was ₹ 7,098.86 crore as compared to ₹ 5,920.82 crore in financial year 2016-17, registering an increase of 20%. This is due to increase in the gross PPE by ₹ 29,324.75 crore i.e. from ₹ 1,11,414.60 crore in the previous financial year to ₹1,40,739.35 crore in the current financial year. The increase in gross block is largely on account of increase in commercial capacity by 3,978 MW resulting in additional capitalization on account of commercial declaration of new units. The depreciation on new units capitalised during the year is on pro-rata basis.

Further, depreciation for units declared commercial during financial year 2016-17 aggregating to 1,170 MW has been charged for the entire financial year 2017-18 as against a pro-rata charge during the financial year 2016-17. The impact on depreciation on this account for the financial year 2017-18 is ₹ 1,057.30 crore.

As per the accounting policy of the Company, depreciation on the assets of the generation of electricity business is charged on straight-line method following the rates and methodology notified by the CERC Tariff Regulations in accordance with Schedule II of the Companies Act, 2013 and depreciation on the assets of the coal mining, oil & gas exploration and consultancy business, is charged on straight line method following the rates specified in Schedule II of the Companies Act, 2013.

In case of certain assets, the Company has continued to charge higher depreciation based on technical assessment of useful life of those assets.

2.5 Net movement in regulatory deferral account balance (Net of tax) (Note 71)

The Company is mainly engaged in generation and sale of electricity. The price to be charged by the Company for electricity sold to its customers is determined by the CERC, which provides extensive guidance on the principles and methodologies for determination of the tariff for the purpose of sale of electricity. The tariff is based on allowable costs like interest, depreciation, operation & maintenance expenses, etc. with a stipulated return. This form of rate regulation is known as cost-of-service regulations, which provide the Company to recover its costs of providing the goods or services plus a fair return. The Company is eligible to apply Ind AS 114, Regulatory Deferral Accounts. The standard permits an eligible entity to continue previous GAAP (Guidance Note on accounting for Rate Regulated Activities) accounting policy for its regulatory deferral account balances. Hence, Company has opted to continue with its previous GAAP accounting policy for such balances.

In terms of the guidance note, the exchange differences arising from settlement/translation of monetary item denominated in foreign currency to the extent recoverable from or payable to the beneficiaries in subsequent periods as per CERC Tariff Regulations are recognised on an undiscounted basis as 'Regulatory deferral account debit/credit balance' by credit/ debit to 'Movements in regulatory deferral account balances' during construction period and adjusted from the year in which the same becomes recoverable from or payable to the beneficiaries. Accordingly, an amount of ₹ 584.72 crore for the year ended as at 31 March, 2018 has been accounted for as 'Regulatory deferral account debit balance' (31 March 2017: ₹ 187.09 crore accounted as 'Regulatory deferral account credit balance).

Considering the methodology followed by the CERC for allowing impact of the previous pay revision, various tariff orders issued by the CERC under Regulations, 2014 and the above-mentioned provision related to the change in law of CERC Tariff Regulations, 2014, a regulatory asset has been created (Regulatory deferral account debit balance) towards the increase in O&M expenditure due to the pay revision. This will be claimed upon implementation of revision of pay scales and discharge of related liabilities. Accordingly, an amount of ₹ 118.32 crore for the year ended 31 March, 2018 has been accounted for as 'Regulatory deferral account debit balance' (31 March 2017: ₹ 522.83 crore).

Accordingly, for the financial year 2017-18, net movement in regulatory deferral account balances (net of tax) is ₹ 553.00 crore whereas for the financial year 2016-17, ₹ 263.92 crore was recognised as net movement in regulatory deferral account balances (net of tax).

3. Profit before tax

The profit of the Company before tax and exceptional items is tabulated below:

(₹ Crore)

Particulars	FY 2017-18	FY 2016-17
Total revenue	85,207.95	79,342.30
Less:		
Expenditure related to operations	60,471.87	56,989.17
Energy purchased for trading	1,313.51	-
Finance cost	3,984.25	3,597.20
Depreciation, amortization and impairment expenses	7,098.86	5,920.82
Less:		
Exceptional items - impairment loss on investment	-	782.95
Profit before tax	**12,339.46**	**12,052.16**

4. Tax expense

The Company provides for current tax in accordance with provisions of Income Tax Act, 1961 and for deferred tax considering the accounting policy of the Company.

Provision for current tax

A provision of ₹ 1,625.50 crore has been made towards current tax for the financial year 2017-18 as against the provision of ₹ 2,598.19 crore made in financial year 2016-17.

Provision for deferred tax

Regulations, 2014 provide for recovery of deferred tax liability as on 31.03.2009 from the beneficiaries. Accordingly, deferred tax liability as on 31.03.2009 is recoverable on materialisation from the beneficiaries. For the period commencing from 01 April, 2014, Regulations, 2014 provide for grossing up of the return on equity based on effective tax rate for the financial year based on the actual tax paid during the year on the generation income. Deferred asset for deferred tax liability for the year will be reversed in future years when the related deferred tax liability forms part of current tax. Accordingly, the same has been accounted as 'Deferred asset for deferred tax liability'.

The deferred tax for the year on account of timing difference is ₹ 3,631.64 crore as against ₹ 1,287.31 crore made in financial year 2016-17.

Details of tax provision

(₹ Crore)

Particulars	FY 2017-18		
	Current tax	Deferred tax	Total
Provision for financial year 2017-18	2,576.80	3,631.64	6,208.44
Adjustments for earlier years	(951.30)	-	(951.30)
Adjustments for Deferred asset for deferred tax liability	-	(2,707.85)	(2,707.85)
Net provision as per Statement of Profit and Loss	**1,625.50**	**923.79**	**2,549.29**

(₹ Crore)

Particulars	FY 2016-17		
	Current tax	Deferred tax	Total
Provision for financial year 2016-17	2,705.75	1287.31	3,993.06
Adjust. for earlier years	(107.56)	-	(107.56)
Adjust. for Deferred asset for deferred tax liability	-	(954.68)	(954.68)
Net provision as per Statement of Profit and Loss	**2,598.19**	**332.63**	**2,930.82**

Net provision of tax for the financial year 2017-18 was ₹ 2,549.29 crore in comparison to ₹ 2,930.82 crore in the financial year 2016-17.

5. Profit after tax

The profit of the Company after tax is tabulated below:

(₹ Crore)

Particulars	FY 2017-18	FY 2016-17
Profit before tax	12,339.46	12,052.16
Less: Tax expense	2,549.29	2,930.82
Add:- Net movement in regulatory deferral account balances (net of tax)	553.00	263.92
Profit after tax	**10,343.17**	**9,385.26**

6. Other comprehensive income

The other comprehensive income net of tax for the financial year 2017-18 is ₹ (-) 14.48 crore in comparison to ₹ (-) 203.38 crore in the financial year 2016-17. For the financial year 2017-18, net actuarial loss on defined benefit plans is ₹ (-) 7.28 crore, while net gain on fair value of equity instruments is ₹ (-) 7.20 crore as against net actuarial loss on defined benefit plan and net loss on fair value of equity instrument amounting to ₹ (-) 238.66 crore and ₹ 35.28 crore respectively in the previous financial year.

7. Segment-wise performance

The Company has two reportable segments i.e. 'Generation of energy' and 'Others'. The Company's principal business is generation and sale of bulk power. Other segment include providing consultancy, project management and supervision, oil and gas exploration, coal mining and trading of energy.

The profit before unallocated corporate interest and other income & unallocated corporate expenses, interest and finance charges, in the generation business for the financial year 2017-18 was ₹ 17,801.36 crore as against ₹ 17,765.47 crore for financial year 2016-17. The income before unallocated corporate interest and other income & unallocated corporate expenses, interest and finance charges from other segment was ₹ 157.64 crore for financial year 2017-18 as against a loss of ₹ 64.51 crore in the previous financial year.

C. Cash flows

Cash & cash equivalents and cash flows on various activities are given below:

(₹ Crore)

Particulars	FY 2017-18	FY 2016-17
Opening cash & cash equivalents	**157.12**	**1,372.40**
Net cash from operating activities	19,248.35	20,013.92
Net cash used in investing activities	(20,388.19)	(24,414.12)
Net cash flow from financing activities	1,043.21	3,184.98
Exchange difference arising from translation of foreign currency cash and cash equivalents	-	(0.06)
Change in cash and cash equivalents	(96.63)	(1,215.28)
Closing cash & cash equivalents	**60.49**	**157.12**

Statement of cash flows comprises of cash flows from operating activities, investing activities and financing activities.

Net cash generated from operating activities was ₹ 19,248.35 crore during the financial year 2017-18 as compared to ₹ 20,013.92 crore in the previous year primarily due to advance of ₹ 5,000 crore given to Railways which has been partially set off due to receipt of income tax refund during the year.

Cash outflows on investing activities arise from expenditure on setting up power projects, investments in joint ventures & subsidiaries and tax outflow on income from investing activities. Cash inflows arise from interest from banks and dividend income from joint ventures and subsidiaries and mutual funds. Cash invested on purchase of fixed assets decreased from ₹ 23,513.50 crore in financial year 2016-17 to ₹ 18,015.46 crore in financial year 2017-18. Considering all the investing activities, the net cash used in investing activities was ₹ 20,388.19 crore in financial year 2017-18 as compared to ₹ 24,414.12 crore in the previous year.

During the financial year 2017-18 the Company had an inflow of ₹ 17,230.49 crore from non-current borrowings as against ₹ 23,803.92 in the previous year and inflow of ₹ 3,499.76 crore from current borrowings (Commercial papers & cash credit) as against ₹ 1,701.06 crore in the previous year. Cash used for repayment of non-current borrowings during the financial year 2017-18 was ₹ 6,966.57 crore as against ₹ 11,095.86 crore repaid in the previous year. Interest paid during the year was ₹ 7,857.17 crore as compared to ₹ 6,888.72 crore during the previous year. Cash used for paying dividend was ₹ 4,040.28 crore (31 March 2017: ₹ 3,595.03 crore) and the dividend tax thereon was ₹ 816.40 crore (31 March 2017: ₹ 727.79 crore). Thus, from financing activities during the year, the Company has an inflow of ₹ 1,043.21 crore as against an inflow of ₹ 3,184.98 crore in the previous year.

FINANCIAL SUMMARY OF SUBSIDIARY COMPANIES

Your Company has five subsidiary companies as at 31 March, 2018 out of which two (NESCL & NVVN) are wholly owned.

A summary of the financial performance of the subsidiary companies during the financial year 2017-18 based on their audited results is given below:

(₹ Crore)

Sl.	Company	NTPC's investment in equity (Ex. Share application Money)	Total Income	Profit/ (Loss) for the year
1	NTPC Electric Supply Company Ltd.#	0.08	-	-
2	NTPC Vidyut Vyapar Nigam Ltd.	20.00	5,036.93	61.26
3	Kanti Bijlee Utpadan Nigam Ltd.	1,042.89	869.04	(181.09)
4	Bhartiya Rail Bijlee Company Ltd.	1,599.53	699.84	27.21
5	Patratu Vidyut Utpadan Nigam Ltd.	92.12	(0.53)	0.03
	Total	**2,754.62**	**6,605.28**	**(92.59)**

Operations of the Company are suspended since 1 April, 2015.

FINANCIAL SUMMARY OF JOINT VENTURE COMPANIES

Your Company has interests in the following joint venture companies. Proportion of ownership and financial performance of the companies for the financial year 2017-18 are given below:

(₹ Crore)

Sl.	Company	NTPC's interest (Ex. Share application Money) (%)	NTPC's investment in equity (net of impairment)	Total Income	Profit/ (Loss) for the year
A.	Joint venture companies incorporated in India				
1	Utility Powertech Ltd. @*	50.00	1.00	962.57	21.02
2	NTPC-GE Power Services Private Ltd.	50.00	3.00	67.98	(15.04)
3	NTPC-SAIL Power Company Ltd.*	50.00	490.25	2,644.45	331.72
4	NTPC-Tamil Nadu Energy Company Ltd.	50.00	1,409.99	3,576.15	33.44
5	Ratnagiri Gas & Power Private Ltd.	25.51	217.50	2,322.98	64.74
6	Konkan LNG Private Ltd.	25.51	-	317.25	(767.21)
7	Aravali Power Company Private Ltd.*	50.00	1,433.01	4,147.40	577.75

(₹ Crore)

Sl.	Company	NTPC's interest (Ex. Share application Money) (%)	NTPC's investment in equity (net of impairment)	Total Income	Profit/ (Loss) for the year
8	Meja Urja Nigam Private Ltd.*	50.00	1,209.33	-	(0.19)
9	NTPC BHEL Power Projects Private Ltd.	50.00	4.41	146.47	(76.69)
10	BF-NTPC Energy Systems Ltd.	49.00	2.42	-	(1.38)
11	Nabinagar Power Generating Company Private Ltd.*	50.00	1,659.94	-	(0.10)
12	National High Power Test Laboratory Private Ltd.	20.00	30.40	22.14	(10.93)
13	Transformers & Electricals Kerala Ltd.	44.60	31.34	188.55	4.22
14	Energy Efficiency Services Ltd.	31.71	146.50	1,366.98	54.43
15	CIL NTPC Urja Private Ltd.	50.00	0.08	-	-
16	Anushakti Vidhyut Nigam Ltd.*	49.00	0.05	-	(0.01)
17	Hindustan Urvarak & Rasayan Ltd.	33.33	333.25	5.91	1.15
B.	**Joint venture companies incorporated outside India**				
18	Trincomalee Power Company Ltd., Srilanka	50.00	15.20	0.33	(15.05)
19	Bangladesh-India Friendship Power Company Private Ltd., Bangladesh	50.00	198.91	-	-
	Total		**7,186.58**	**15,769.16**	**201.87**

@excluding ₹ 1 crore equity issued as fully paid bonus share
*Financial statements are audited.

As may be seen, out of 19 joint venture companies considered for consolidation, 11 companies listed at Sl. No.1 to 7, 9 and 12 to 14 are operational. 7 of them registered an aggregate profit of ₹ 1,087.32 crore and balance 4 companies have suffered an aggregate loss of ₹ 869.87 crore in the financial year 2017-18.

Consolidated financial results of NTPC Ltd.

A brief summary of the results on a consolidated basis is given below:

(₹ Crore)

Particulars	FY 2017-18	FY 2016-17
Total income	89,641.59	83,009.31
Profit before tax	12,529.27	13,426.33
Profit for the year	10,501.50	10,713.94
Other comprehensive income (expense) (net of tax)	(20.69)	(212.85)
Total comprehensive income for the year	**10,480.81**	**10,501.09**

CAUTIONARY STATEMENT

Statements in the Management Discussion and Analysis and in the Directors' Report, describing the Company's objectives, projections and estimates, contain words or phrases such as "will", "aim", "believe", "expect", "intend", "estimate", "plan", "objective", "contemplate", "project" and similar expressions or variations of such expressions, are "forward-looking" and progressive within the meaning of applicable laws and regulations. Actual results may vary materially from those expressed or implied by the forward-looking statements due to risks or uncertainties associated therewith depending upon economic conditions, government policies and other incidental factors. Readers are cautioned not to place undue reliance on these forward-looking statements.

For and on behalf of the Board of Directors

(Gurdeep Singh)
Chairman & Managing Director

Place: New Delhi
Date: 8th August, 2018