

NTPC Commitment to UN Global Compact “Communication on Progress” FY 2019-20

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Major Highlights

The total installed capacity NTPC Group as on 31.03.2020 has become 62,110 MW and during the year the company added 6,984 MW to its installed capacity.

Highest ever Commercial capacity of 8,260 MW (including subsidiaries and acquisitions during the year) added during the year.

Plant Load Factor (PLF) of 68.20% as against all India PLF of 55.99% with Rihand Thermal station of the Company recording 88.64% PLF. 8 Stations (including JVs) were in the top 25 in the country in terms of PLF. 5 coal based stations out of 24 commercial Stations achieved more than 85% PLF.

The Company raised a syndicated term loan in JPY, equivalent to US \$750 million-highest foreign currency loan raised by any Indian Company.

Group Capital Expenditure (CAPEX) including CAPEX of JV/ subsidiaries of the Company for the year 2019-20 was Rs.47,122.93 crore and on stand-alone basis was Rs.35,539.37 crore on cash basis.

Revenue from operations was Rs. 97,700.39 crore and total revenue was Rs.1,00,478.41 crore. Net Profit after Tax (PAT) was Rs.10,112.81 crore.

Cash contribution of Rs. 5,500.89 crore to Government of India's exchequer through dividend, dividend distribution tax and income tax in the financial year 2019-20.

Planted approx. 10 lakh trees during 2019-20 to mitigate the GHG emissions arising out of plant operations, thereby bringing total to about 35 million planted trees till end of 31.03.2020.

Coal mine at Talaipalli coal block become operational. With this, production has started at three mines of the Company. Further in 2019 achieved 11.15 MMT of coal production from captive mines, registering an increase of 52.50% over the previous year.

The Company is one of the Best Workplaces and has been adjudged 14th in 2019 'Great Place to Work' by the Great Place to Work Institute, further the Company also named as 'Best PSU' in 2019.

NTPC declared as winner in "Corporate Excellence" category of CII-ITC Sustainability Award 2019, which is the most coveted awards in India in sustainability front.

The Company awarded as a Best Performing Power Generation Company in 2019 at the Dun & Bradstreet Infra 2019 Award function.

Power Management Institute (PMI) has won internationally most coveted ATD BEST award for the 4th time in a row.

The Company has acquired 74.496% equity stake of Gol in THDC India Limited (THDC) and 100 % equity stake of Gol in North-Eastern Electric Power Corporation Limited (NEEPCO) during the FY 2019-20.

For the first time in the Company, Air Cooled Condenser (ACC) System has been adopted at North Karanpura STPP and Patratu STPP which will bring a significant reduction in specific water consumption for the project.

Biomass Co-firing Utilization of Agro residue for Power Generation & reduce pollution: After successfully demonstrating biomass co-firing at Dadri plant, The Company has started commercial scale biomass co-firing at Dadri and has already fired over 6,000 tonnes of biomass pellets at Dadri plant.

Towards its commitment to recycle, recover energy/ material from entire plastic waste in eco-friendly manner the Company has released "Integrated Plastic Management Policy-2019" to ensure Zero contribution of single-use plastic waste to environment from Company's establishment & operations.

The Company has successfully revamped and made it functional the "Waste to Compost" plant at Karsara, Varanasi and now managing Operation & Maintenance (O&M) of this entire 600 Tons per Day (TPD) capacity plant. The plant is processing about 600 TPD of MSW and generating about 60-80 TPD of compost.

New Initiatives during the year

Biomass Co-firing Utilization of Agro residue for Power Generation & reduce pollution:

After successfully demonstrating biomass co-firing at Dadri plant, The Company has started commercial scale biomass co-firing at Dadri and has already fired over 6,000 tonnes of biomass pellets at Dadri plant.

Waste to energy (WtE) and disposing municipal solid waste (MSW):

An MoU has been signed between NTPC and Bhabha Atomic Research Centre (BARC) for developing technologies in the areas of Waste-to-Energy, Hydrogen, sensors, robotics, ash, renewables, water etc. and shall contribute towards "Atmanirbhar Bharat". Initially, two projects 'Development of High Temperature Steam Electrolyser' & 'Energy Efficient Plasma Gasification Technology' shall be taken up.

Smart Township:

The Company has awarded the work of two of its townships i.e. "Solapur" and "Khargone" to be converted into "Smart Townships". The work is under execution. Planning and development of further eight (8) Townships have also been completed.

Initiative for Use of Treated Sewage Water from Municipal Sewage Treatment Plants (STP):

The Company has already identified some of its projects viz. Dadri, Patratu, Solapur, Meja, Mouda, Korba, Sipat and Ramagundam where there is feasibility of using the municipal STP treated water as STPs already exist/are going to be constructed within 50 km radius of the power plants with substantial availability of STP water.

Dry Bottom Ash Handling System:

The Company has taken initiative in recent times to minimize water consumption by adopting Dry Bottom Ash Handling System instead of conventional Wet Bottom Ash Handling System for upcoming Coal Based Thermal Power Plants at Patratu, Singrauli-III and Lara- II and for R&M project at Rihand STPP.

Change-over to safer Chlorine-di-oxide system from conventional gas Chlorination system for disinfection of plant water system:

Keeping commitment towards green environment and safety, the Company has embarked upon to the more advanced, safer and compact in-situ Chlorine-di-oxide generation system from earlier practice of Gas chlorination system through a comprehensive policy change for its entire fleet of existing power stations as well as all upcoming power stations which is under implementation in various projects and stations of the Company.

Zero Liquid Discharge (ZLD) from Thermal Power Plants:

The Company has already taken initiative to become a Zero Liquid Discharge company for all closed cycle operating station by identifying and implementing water management initiative, adopting innovation in water use in its Thermal Power Plant. 13 stations have already become zero liquid discharge compliant and implementation is under progress in balance stations. Under the scheme, plant effluent water is segregated from storm water and is reused after treatment to a large extent in the area of Ash handling plant, Coal Handling Plant, FGD make up, Service Water etc.

Renewable Energy (RE Sources):

NTPC Ltd and Oil and Natural Gas Corporation Limited (ONGC) have signed a Memorandum of Understanding (MoU) at Delhi to set up a Joint Venture Company for Renewable Energy business. This MoU will enable both companies to accelerate their footprint in Renewable Energy.

Regarding International business, the Company has received Project Management Consultancy contacts for setting up of solar projects at Togo and Mali through International Solar Alliance (ISA). Discussions are also underway with various countries for setting up solar capacity up to 10 GW through ISA platform.

The Company contributes to RE capacity addition in the following two pronged approach namely own capacity addition mode and Developer Mode.

(a) Projects under Own Capacity Mode: The Company has already commissioned as on date 1070 MW of RE projects including 142 MW owned by the subsidiaries of the Company. Further, 2,348 MW of RE projects are under implementation comprising of Ground Mounted Solar Projects and Floating Solar projects. Floating Solar projects of 237 MW are spread across Telengana, AP and Kerala. The Company is first mover/leader in setting up large scale Floating Solar projects. Ramagundam 100 MW Floating Solar being set up under non PPA mode is the largest in the country.

(b) Developer Mode: The Company has commissioned 3,983 MW RE projects under Developer mode and 1,600 MW of RE projects are under implementation.

Hydrogen Energy:

The Company is in the process of exploring opportunities for production of Green Hydrogen using power produced from RE sources and using the Green Hydrogen for various applications namely Mobility Application, Production of Synthetic fuel (Methanol) etc. As a part of technological tie up MoU has been signed with Siemens.

Diversification in Electric Vehicle (EV) Segment:

Hydrogen mobility, E-bus solution, Battery charging & swapping solution, charging stations and Charging Infrastructure under FAME-II are the major initiatives taken by the Company.

Foray in Packaged Drinking Water Business:

The Company's research arm, i.e NETRA, has developed technology for sea water desalination/waste water treatment using waste heat from flue gas from the power plant. The cost effective technology is now being utilized for packaged drinking water. An MoU in this regard has been signed with IRCTC for setting up a packaged drinking water facility at Simhadri Station. Commercial arrangements are being finalized with IRCTC. Award of contract by IRCTC for setting up packaged drinking water project is in progress.

Foray into cement Business:

The Company is collaborating with CCI for reviving the cement plants of CCI supplementing both resource requirement and increasing ash utilization. An MoU was signed with CCI for establishing a cement blending unit at Solapur Station by utilizing the fly ash and the proposal is being assessed. Land identification & feasibility report for the proposed plant is in progress.

United Nations Global Compact Human Rights Principles

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights

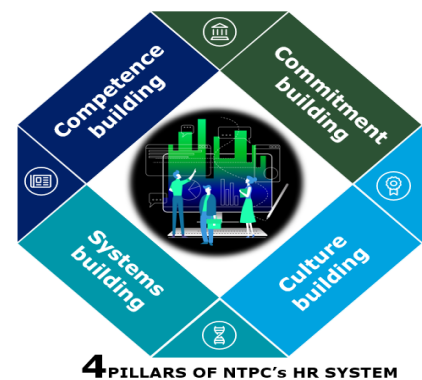
Principle 2: Make sure that they are not complicit in human rights abuses.

At NTPC, we believe that organizational success is outcome of employees' success. Employees are the driving force behind our sustained stellar performance over all these years of market ascendancy. As a commitment towards our core values, employees' participation in our management has been made effective based on mutual respect, trust and a feeling of being a progressive partner in growth and success.

"Human Rights are the very soul of our sense of nationhood"

Respect for human rights is fundamental to the sustainability of any business and communities in which we operate. In NTPC and across our system, we are committed to ensure that people are treated with dignity and respect.

Our HR System is based on four pillars.



Our Human Right Commitment:

- NTPC developed Human Right Policy. The Human Rights policy of NTPC is applicable to all its employees posted in various stations, projects, offices, JVs and Subsidiaries. Human Rights provisions are also built in our bidding documents for supply cum erection and civil packages invited on competitive bidding basis covering our suppliers and contractors.
- NTPC believes that all its employees must live with social and economic dignity and freedom, regardless of nationality, gender, race, economic status or religion. In the management of its businesses and operations therefore, NTPC ensures that it uphold the spirit of human rights as enshrined in existing international standards such as the Universal Declaration and the Fundamental Human Rights Conventions of the ILO.
- NTPC respect the dignity of our employees in the work place, and we are accountable to ensure our employees' rights to personal security, a safe, clean and healthy workplace, and freedom from harassment or abuse of any kind. We deal fairly and honestly with our employees regarding wages, benefits and other conditions of employment, and recognize their right to freedom of association. We do not use forced/ compulsory or child labour. We do not tolerate discrimination and work to ensure equal opportunity standards, wherever we operate or work.

- We are fully committed to compliance with applicable laws and regulations and doing the right thing consistently, without compromise. To ensure ethical and legal compliance, we have our Code of Conduct, which is applicable for the entire business.
- We are committed to train our employees and associates including contractor’s personnel to be aware of and respect human rights in the workplace and in the local communities directly impacted by our operations.
- We also encourage our partners, suppliers, contractors, sub-contractors security personnel and vendors to support and comply these policies, and we place substantial value on working with others who share our commitment to human rights.
- We go beyond our operational boundary and have mandated our supply chain partners to comply with the NTPC Code of Conduct. All our partners are required to sign on the terms and conditions of our business, which include complying with necessary laws and regulations of the land.
- NTPC believes in workforce that represents a fusion of both experienced and young employees. From young professionals to proficient employees, members of different generations are enabling us to further grow and expand our business. At NTPC, there is fair representation of people from every state and regions of the country. The details on the breakup of current workforce by gender are as below:

Total Employee	FY 2019-20	
Executive	Male	11650
	Female	793
Non- Executive	Male	6260
	Female	462
Total		19165

- The wage payment to the contract workers directly into their bank account on last day of every month is also ensured by us. This has been enabled through our digital initiative “CLIMS” (Contract Labour Information Management System) easing and enabling proper verification of documents like payment sheets, PF deposit receipt etc.
- Our overall Man-MW ratio for the year FY2019-20 was 0.35 excluding JVs/ subsidiaries and was 0.33 including them. Generation per employee was 15.14 MUs during the year for NTPC group.
- Our turnover rate is very low and most employees chose a lifetime career with us. During FY 2019-20, our employee turnover rate was 0.82%.

- At NTPC, for our full time employees we extend an entire gamut of benefits. This includes paid childcare leave, comprehensive medical care, higher education facility, housing advance, social security etc. We also extend post-retirement medical benefits to employees to meet any exigency that may arise in future. Parental leaves are applicable for both the gender. However, as per regulation, some additional benefits such as maternity leave, and special childcare leave of 2 years are provided to women employees. In FY 2019-20, 757 male and 76 female candidates availed parental leave. In reporting year, Rs. 5,830 Cr were incurred on our employee benefits.
- NTPC is going to implement sustainable supply chain policy for all of its suppliers, wherein assessment on various ESG parameters including Human Rights will be done for all suppliers. Also, capacity building programmes will be conducted for vulnerable suppliers.
- At NTPC, regular feedback is taken from employees by conducting annual employee satisfaction surveys through external agencies. For FY 2019-20, the employee satisfaction index score was 80%
- At NTPC, we believe in holistic development of not just our product but also of our employees to give them an edge over others for their personal and professional growth. Given the global trend of rapid changes in technology and innovation, it has always been important to us to nurture our employees for the global competence. We have been able to sustain emerging leadership through our comprehensive learning and development programs. Our quest to keep the organization in tune with the emerging business is reflected in our new tag line for learning “Learning at speed of business”. During FY 2019-20, Rs. 42.65 Cr were incurred as Training & development Expenditure on standalone basis. Our commitment towards a dedicated and comprehensive learning approach is driven through:
 - NTPC Power Management Institute (PMI), Apex L & D Centre at the corporate level
 - 6 Regional Learning Institutes
 - Employee Development Centers at each operating station

The effective chain of PMI, RLI and EDC’s provided an effective learning grid to the employees.

- We also promote international training and development opportunities for our employees. We have partnered with several eminent international institutions like Harvard Business School, Wharton Business School etc. on various subjects matters.
- Major Highlights during FY 2019-20 are:
 - Rs. 5830 Cr spent on Employee Benefits
 - Ranked one of the Best Workplaces in Asia -2019
 - Rs. 43 Cr spent on Training & development
 - 1.16 Million man-hours trained in Safety

- 0.33 Man-MW Ratio achieved
- 10 % y-o-y increase in Learning opportunities
- ATD award for 4th successive year

Supporting Community:

In FY20, we exceeded our minimal prescribed expenditure on CSR works and spent around Rs. 304.92 Cr towards CSR initiatives.

In line with the priorities defined by the government. of the total CSR expenditure in FY 2019-20, over 56 % was spent towards education & skill development, hunger & poverty, healthcare & sanitation.

During the Year 2019-20, NTPC has taken up Impact Evaluation at 06 stations. These studies which take Human Development Indicators as reference for measuring the impact have statistically demonstrated that the CSR interventions of the company are improving the lives of people.

One of our most prominent initiative is our Flagship Program Girl Empowerment Mission (GEM) targeted for the empowerment of the girl child wherein interventions were taken to make the girls self-reliant and confident in all walks of life. In FY 20, 04 weeks residential summer workshops were provided to more than 1800 girl children in the age group of 10-12 years studying in Govt. schools in the vicinity of 23 NTPC Locations.

10 lakh lives touched through CSR works

95.5 % Customer Satisfaction Score

Our Communities

We at NTPC, do not limit our operations to mere wealth creation, rather, our operations also extend in the direction of creating societal value. We believe that sustainable communities are not just the end, but are also the means for our nation's development. We also recognize that our organizational growth is meaningless unless our communities grow along with us. Thus, we go beyond mere compliance with CSR expenditure regulations.

Corporate Social Responsibility (CSR)

Our policy for CSR & Sustainability is in line with Companies Act, 2013 and Department of Public Enterprises (DPE) Guidelines for CSR.

Our core organizational belief of changing lives and adding value to our communities is manifested through constant engagements with our communities across our geographic locations. Although preference for CSR activities is given to local areas around our operations, however, we also undertake activities in different parts of the country to supplement the Government of India's efforts in line with the principles of inclusive growth.

NTPC is providing under privileged section of society with opportunities. The amended Company's Act has given an opportunity to relook into Corporate Social Responsibility (CSR)

programs. The company has made it more robust and included specific areas like education, Health, Woman Empowerment, Drinking Water, Sanitation, Skilling, Sports & Culture. From 2014, onwards the company has been **spending more than the mandated 2% CSR spent.**

Inclusive Workplace:

Our NTPC Foundation is engaged in serving and empowering the physically challenged and economically weaker section of the society. Its flagship programme i.e 'NTPC Utkarsh' - Merit Scholarship for students has been launched to encourage and motivate students who are pursuing secondary, high school, engineering & medical science studies. The program envisages to benefit 7,300 students every year. During the year 420 students have received the scholarships. Disability Rehabilitation Centre (DRC) at NTPC Tanda, Rihand, Korba, Dadri, Bongaigaon and Farakka established in collaboration with National Institute for the Orthopedically Handicapped (NIOH), under the Ministry of Social Justice and Empowerment, Government of India has benefited about 2,900 physically challenged people with approximately 9,300 surgical corrections, serving aids & appliances during the year.

Current activities are providing IT education to physically & visually challenged students, establishing Disability Rehabilitation Centres (DRC) and operating Directly Observed Treatment cum Designated Microscopy Centre (DOTs cum DMC) with Mobile ambulance facilities.

NTPC is a firm advocate of creating awareness on empowering people who are differently abled and opening up employment opportunities for them. **As on 31.03.2020, strength of specially abled persons employed by NTPC are 2.6%, who are working in different units of NTPC.**

Employee Relations:

Employees are the driving force behind the sustained stellar performance of the company. As a commitment towards the Company's core values, employees' participation in Management was made effective based on mutual respect, trust and a feeling of being a progressive partner in growth and success. Communication meetings with unions and associations, workshop on production and productivity, etc. were conducted at projects, regions and corporate level during the year. During the year, long term wage agreement for the employees in workmen cadre was successfully concluded with a win-win proposition for all the stakeholders. Both employees and management complemented each others' efforts in furthering the interest of the Company as well as its stakeholders, signifying and highlighting overall harmony and cordial employee relations prevalent in the Company.

Grievance Redressal:

NTPC adheres to statutory and regulatory requirements related to payment of wages and benefits. The Company ensures that there is no violation of the rights of employees and provides statutory benefits like Provident Fund and medical facilities. All employees and contractors are

sensitized on Human Right related topics through structured training programmes. Besides issue related to Human Rights for external stakeholders is concerned specially with respect to Project Affected Families (PAF), adequate transparency is maintained with a focused approach on consultation and participation. Special provisions for vulnerable communities also find a mention in the relevant policies. In addition to individual benefits, a comprehensive community development has been undertaken. Institutional mechanisms are also in place for Grievance redressal. Human rights are adequately addressed and possibility of any violation is minimal. Human rights clauses are included in all significant investment agreements and contracts. NTPC regularly conduct monitoring of compliance with regulations as well as internal policies to ensure no complaints on Human Right related issues like child labour, forced labour and sexual harassment at workplace.

To address employee concerns and complaints pertaining to human rights, a Grievance Redressal Procedure with appropriate systems and mechanisms has been instituted across NTPC units and is backed by Policies and statutory provisions. Implemented throughout the organization through an on-line portal, it allows for open and structured discussions on grievances raised on these issues and their resolution in a fair manner.

United Nations Global Compact Labor Standards Principles

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining

Principle 4: The elimination of all forms of forced and compulsory labor

Principle 5: The effective abolition of child labor

Principle 6: The elimination of discrimination in respect of employment and occupation

“With our core values—including Best People, Integrity and Respect for the Individual—as a foundation, NTPC enjoys an authentically diverse culture: our workforce spans countries, cultures, languages, generations, perspectives, backgrounds and educational experiences.”

Freedom of association and effective recognition of the right to collective bargaining

- The practices as regards the collective bargaining rights of workmen, are in synchronization with the provisions of Trade Unions Act, the governing statute on the issue.
- The workforce in the unionised category has got right to organize, which is creation of a statute. Even the executives have formed associations at almost all the projects/ stations and regular interactions are held with all the employees/ representative bodies at Project, Regional and Apex level.
- Mechanism is in place so as to hold bipartite meetings, which inter alia is aimed at getting employee inputs on conditions of employment, despite the fact that electricity generation is an essential service wherein right to strike is prohibited.
- There was no incident of violation involving right to exercise freedom of association and collective bargaining during FY 2019-20.

Prohibiting child labour and preventing forced and compulsory labour

- Company service rules stipulate that minimum age for employment in NTPC is 18 years.
- The entry, exit and attendance of Contract Labour engaged will be monitored with CLIMS biometric punching system.
- The bidding/ contract documents etc. also explicitly prohibit engagement of child labour.
- NTPC's plants being high security installations, the entry is regulated through issue of security gate-pass for workers.
- Preventive check is done at the time of issuing gate passes to ensure that no contracting agency deploys child labour in NTPC's premises.
- NTPC cherishes freedom of every kind enshrined in the constitution of India including zero tolerance for forced or compulsory labour.
- The manpower working in NTPC enjoys complete freedom to join and leave the organization as per its own volition.
- The company not only adheres to international conventions and statutory provisions on employment, but also constantly upgrades its practices on employee engagement, as per emerging scenarios and prevalent best practices.
- None of the operations were found to have risk of child, forced and compulsory labour in FY 2019-20 and no complaints were received in this regard.

Prevention of discrimination at the workplace

- NTPC promotes equality and diversity amongst its employees. It has been providing equal opportunity to women employees and minorities at all levels since its inception.
- Statutory requirements and policy guidelines are adhered to without any discrimination. The company makes no distinction on basis of caste, creed, colour, gender and religion.

United Nations Global Compact Environment Principles

Principle 7 : Businesses should support a precautionary approach to environmental challenges

Principle 8 : Undertake initiatives to promote greater environmental responsibility

Principle 9 : Encourage the development and diffusion of environmentally friendly technologies

“For NTPC, environmental sustainability is not just a performance matrix, but is intrinsically inter-woven into its long-term growth strategy. In line with our value of sustainable production and consumption of natural resources, we are continuously upgrading our systems to set new global benchmarks in environmental compliance, practices and stewardship.”

Precautionary approaches to environmental challenges -Towards Sustainable Development

- Amongst all commercially operational stations of the Company, 24 stations have ISO-14001 and OHSAS 18001 certifications and for four stations, certifications are under renewal by reputed National and International certifying agencies in recognition of its sound

environmental management systems and practices. Certification is in process for newly commercial stations of the Company.

- The Company has undertaken tree plantation covering vast areas of land in and around its projects and till date more than 35 million trees have been planted throughout the country including 10 lakh trees planted during 2019-20 under accelerated afforestation programme for protection of environment around its stations which act as CO₂ sink and also help in absorption of pollutants.
- NTPC has taken initiative on pilot project of Miyawaki plantation technology and planted more than 3,000 saplings at Ramagundam station whose biomass production per unit area is 16 times higher than the conventional plantation. Replication of this technology in plantation will create more efficient carbon sink for Company.
- The Company has also planned to take up project of forestry in Khargone, and Indore Districts of Madhya Pradesh, located on right bank and left bank of Narmada River respectively for managing selected watershed, forests and riparian landscapes along Narmada River and submitted a joint proposal along with Global initiative (GGGI), India and Indian Institute of Forest Management (IIFM), Bhopal to USAID.
- New environmental norms have mandated use of coal with ash content not exceeding 34% on quarterly average basis for coal based Thermal Power Plants located far away from coal mines/sources. To ensure compliance to that Company has taken initiative and Online Coal Analyser is being installed in all non-pithead power plants and all upcoming coal based thermal power plants. Further the type of analyser selected not only represents the ash content but also the various elements of coal which will be useful for enhancing the process efficiency and ease of operation & maintenance. "Approval to operate" has already been accorded by AERB, for operation of coal analysers installed at Dadri, Kahalgaon and Unchahar STPPs.
- The Company remains a benchmark setter in Environment monitoring & protection. As pioneer in environment monitoring we have already installed Ambient Air Quality Monitoring Stations (AAQMS) consisting of SO₂, NO_x, CO, PM 2.5, PM10 and access thereof has been provided to the Regulators such as State Pollution Control Boards and Central Pollution Control Board.
- Ozone analyzers for ambient air are also being provided phase wise in existing NTPC stations.
- Continuous Emission Monitoring Systems (CEMS), to monitor emissions viz. SO₂, NO_x, CO, CO₂ in all its existing units on real time basis, are installed & commissioned in addition to the opacity meter installed for monitoring of particulate emission.
- Installation of real time monitors for pollutants in effluents is also completed for all its existing projects.
- For all the upcoming projects real time monitors for ambient air, effluents and emissions are included in the engineering packages during design stage.
- In order to comply with the new environmental norms, NTPC is installing Flue Gas Desulphurisation (FGD) technology in its existing and upcoming power plants.
- NTPC has taken up extensive renovation and modernization of its old power generating units to maintain/ upgrade their efficiencies. Schemes are also implemented to reduce plant emissions and hence improve their environmental performance to aid sustainable development.

- NTPC is in the process of reducing the consumption of ODS substances by upgraded technologies and systems.

Initiatives to promote greater environmental responsibility

- All stations of the Company are equipped with advanced waste water treatment facilities such as state of art technology based Sewage Treatment Plant (STP), Liquid Waste Treatment Plants (LWTP), Coal Slurry Settlement Pit (CSSP), Ash Water Recirculation System (AWRS) for treatment and reuse of treated effluents.
- For optimum use of water, closed cycle condenser cooling water systems with higher Cycle of Concentration (COC), adoption of high concentration slurry disposal (HCSD) system, rain water harvesting system, reuse of treated effluent in ash slurry disposal and reuse of treated sewage effluent for horticulture purposes are few measures implemented in all stations.
- For effective monitoring of water use, flow meters with integrators are being installed at strategic locations in all operating stations.
- High efficiency Electro-Static Precipitators (ESPs) with efficiency of the order of 99.97% and above, with advanced control systems have been provided in all coal based stations to keep Particulate Matter (PM) below the prevailing permissible limits.
- All upcoming units/projects are being provided with ESPs designed in such a manner that would cater to the notified future stringent norms.
- In existing units for performance enhancement of ESPs operating over the years is being carried out by augmentation of ESPs fields, retrofitting of advanced ESP controllers, new technology i.e MEEP (Moving Electrode Electrostatic Precipitators) and adoption of sound O&M practices.
- NO_x control in coal fired plants is presently achieved by controlling its production by adopting best combustion practices (primarily through excess air and combustion temperatures controls).
- In gas based stations, NO_x control systems (hybrid burners or wet DeNO_x) have been provided for good combustion practices.
- For compliance of new norms for coal based stations, pilot study based on selective catalytic/non-catalytic reduction (SCR/SNCR) technology are being undertaken at 11 locations to find out the optimal solution and suitable technology for DeNO_x system for the TPP operation with Coal containing high ash content.
- For control of SO_x, first wet FGD has been commissioned and operational at Vindhyachal Station. Erection of wet FGD at Dadri Stage-II is in advanced stage. FGD based of dry sorbent injection (DSI) system erection work completed at Dadri (St-I) and in advanced stage of erection in two units of Tanda (St-I) to meet the emission norms for SO_x.
- Fugitive emissions from ash pond are controlled by maintaining water cover, plantation on abandoned ash ponds, water spray and earth cover in inactive lagoons. Providing dust suppression and extraction system in CHP area has further added to reduction in fugitive dust during operations.
- NTPC Stations have taken up various scientific studies on bio-productivity of Gangetic Dolphin around NTPC power plants, Mass balance, Source Apportionment, Human Health Risk Assessment, Mercury Inventorisation, Impact of Power generation on Ganga and its tributaries.

- The Company is undertaking tree plantation covering vast areas of land in and around its projects and till date more than about 35 million trees have been planted throughout the country under accelerated afforestation programme.

Development and diffusion of environment friendly technologies

- NTPC is proactively taking action in line with National Solar Mission. To promote clean energy usage in communities, NTPC is installing Roof top Solar PV & Solar Irrigation pumps. NTPC is also replacing sodium vapor lamp street light with LED light in phased manner in line with National Programme for LED-based Home and Street Lighting by Government of India. Attempts are also being made to utilize solid waste generated in townships using installation of bio-methanation plant, bio-digester and foodie machines. Horticulture waste is being utilized by worm composting to make clean and green area.
- In line with Government of India's Digital India initiative, guidelines have been issued regarding implementation of 100 % digital invoice submission in NTPC by vendors.
- NTPC is all set to start a first biomass co-firing project in India at NTPC Dadri on commercial scale.
- In line with the "Digital India" initiative, NTPC has taken steps towards digitization by implementation of company wide paperless office through "PRADIP" to save on expensive office space, paper use and protection of environment. 3.3 Cr. of A4 size eq. paper is saved annually due to our paperless initiatives.
- In view of water stressed scenario and new norms for specific water consumption, water conservation and reduction in water consumption per unit of generation has assumed great importance. In addition to embracing the principle of 3R's, in the area of water conservation also NTPC has taken a proactive approach of making all its power stations to operate with ZLD (Zero liquid discharge) progressively in phases.
- Information security /cybersecurity strategy and policies approved by the management have been implemented at all locations.
- Our IT Strategy aims to achieve 100% Paperless Office, Data Analytics for decision making, induction of new technology such as IIOT, AI, Machine learning etc. over next 2 years.
- Implemented Enterprise Resource Planning (ERP) application to integrate all our business functions. SAP R/3 ERP system has been implemented for all business areas of NTPC encompassing i.e. Material Management, Sales & Distribution, Plant Maintenance, Project Systems, Finance & Controlling, Human Resource, Production Planning, Quality Management, ISU, BI (Business Intelligence), Solution Manager, Basis, ABAP. This is the life line of NTPC business system.
- Non-ERP web based applications have been developed for areas such as Engineering Drawings approval, Quality Control Management, Hospital Management, Labour Management, Transit Camp Management, RTI, Security Control etc.
- A 24x7 Security Operation Centre (SOC) is in operation to monitor all external and internal data traffic using latest tools through SOC and latest threat management tools to prevent any cyber-attack or data theft.
- As part of virtual office, employees are increasingly enabled to work from anywhere.

- OSI PI System (Data Historian) has been implemented as a bridge between the IT and OT systems to enable generation & process data analysis for business decisions.
- Various web and mobile based applications and have been launched by us such as Coal Monitoring Portal, Ash Management Portal, CPSE Conclave action points monitoring portal etc. to take care of requirements of various internal departments and Ministry of Power

United Nations Global Compact Anticorruption Principle

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery

“NTPC is committed to maintaining the highest ethical standards and to complying with all anticorruption laws where we operate around. To this end and as reflected in our internal policies, we have zero tolerance for bribery or any other activity that violates the anticorruption laws in any place we conduct business.”

- Code of Conduct for Board Members & Senior Management Personnel covers all the Directors and Senior Management Personnel of the Company.
- Fraud Prevention Policy applies to any fraud, or suspected fraud involving employees of NTPC as well as representatives of vendors, suppliers, contractors, consultants, service providers or any outside agency(ies) doing any type of business with NTPC.
- CDA Rules are applicable to all employees of NTPC and employees posted in JVs/Subsidiaries.
- Insider Trading Code is applicable to designated employee of the company.
- Related Party Transaction Policy is framed intended to ensure the proper approval and reporting of transactions between the Company and its Related Parties.
- The objective of Whistle Blower Policy is to build and strengthen a culture of transparency and trust in the organization and to provide employees with a framework / procedure for responsible and secure reporting of improper activities (whistle blowing) within the company and to protect employees wishing to raise a concern about improper activity/ serious irregularities within the Company.
- The Policy for determination of materiality of events or information for disclosure was framed in terms of Regulation 30 (1) of Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 SEBI (LODR)
- The Policy on maintenance & preservation of documents was framed in pursuance to Regulation 9 of the SEBI (LODR).
- The Policy for Determining Material Subsidiaries was framed in accordance with the requirement stated under the Listing Agreement.
- To ensure transparency, objectivity and quality of decision making in various operations, the Company has a Vigilance Department headed by Chief Vigilance Officer. The Vigilance set up in NTPC consists of Vigilance Executives in Corporate Centre and Projects. In Projects, the Vigilance Executives report to the Project Head in administrative matters but in functional matters, they report to Chief Vigilance Officer.

- Integrity Pact has been implemented in NTPC since 2009. Tenders having estimated value of ₹10 crore and above are covered under the Integrity Pact.
- E-procurement process is used to improve efficiency and to ensure transparency in the process.
- During Vigilance Awareness Week (VAW), bilingual posters and banners based on the policies were distributed and displayed to premises nearby.
- The Activities were organized during VAW-2019 across India covering 20 states involving more than 40,000 students & 40,000 citizens besides employees of the Company, its Subsidiaries & Joint Ventures.
- The events & activities across the Company were organised focusing on the theme of VAW-2019 "Integrity-A Way of Life". To ensure wider participation of students & citizens, events & activities were organised at Schools and Colleges and Gram Sabhas in rural areas' & seminars in the urban areas were organised in the vicinity of our Stations / Projects / Offices / Corporate Centre. Special focus was given to the cities assigned to the Company for outreach activities namely New Delhi, Varanasi, Farakka, Korba & Talcher.
- For general awareness, FM Radio / Prasar Bharati medium was also used to air the CVC message on "Integrity-A Way of Life" at New Delhi, Patna, Hyderabad, Visakhapatnam & Raipur.
- The Company Corporate Vigilance compendium of E-flyer VIGDOM on vigilance awareness was released by CMD of the Company on 28.10.2019 and the Company Vigilance Mobile App was launched by CVO on 29.10.2019.
- For general awareness, the FM Radio medium was also used to air the CVC message against corruption at New Delhi, Patna, Hyderabad & Visakhapatnam.
- Use of Social Media (Facebook, Twitter & LinkedIn) and Video Conferencing were made to strengthen a culture of transparency, to work fearlessly in the interest of the organization, aiming to improve upon the productivity of the company as a part of the management function etc.
- All employees furnish annual property returns in a detailed format. Issuance of vigilance clearance for employee related process has also been linked with the submission of Annual Property Returns by the employees.