

Management Discussion and Analysis

1. Over view of Indian Power Sector

Electricity is one of the most critical infrastructure for socio- economic development of a nation. For sustained economic growth of the country, development of suitable power infrastructure is essential. Despite being the third largest electricity consumer in the world, the per capita electricity consumption in India was 1,208 kWh (FY 2019-20) and is considerably low as compared to the world average of more than 3,200 kWh. Lower consumption base and a decent long term GDP growth forecast implies that power demand will grow over the foreseeable future.

For energy security and sustained long term growth, Government of India, through its various policy and reform initiatives is making continuous efforts for facilitating establishment of clean and green electricity generating capacities together with development of related transmission and distribution infrastructure.

India's power sector is very dynamic and diversified with the presence of mixed power generation sources including conventional and renewable; a synchronously operating national grid comprising inter-regional, regional and state grids, a vibrant electricity market and a distribution sector providing electricity to end consumers.

Peak power and energy deficits have considerably reduced over the years. The shortages in peak power and energy have reduced primarily due to addition in generation capacity, expansion of transmission systems and accomplishment of 'One Nation - One Grid - One Frequency' which has led to the creation of a vibrant electricity power market in India.

The country, over the year, has been witnessing considerable growth in the sector as tabulated below.

(Source: CEA, POSOCO)

	FY15-16	FY19-20	FY 20-21	Growth (1-year)	Growth (FY16-FY21) CAGR
Generation					
Total Installed Capacity (incl. RE) GW	305.16	370.11	382.15	3.25%	4.60%
Renewable Capacity GW	45.92	87.03	94.43	8.50%	15.51%
Total Generation (incl. RE) BU	1,173.17	1389.1	1381.86	-0.52%	3.33%
Generation from RE sources (BU)	65.78	138.32	147.25	6.46%	17.49%
Cross-Border Power Exchange (BU)	10.68	15.68	18.74	19.52%	11.90%
Transmission					
Transmission Lines (ckm)	3,41,551	4,25,071	4,41,821	3.94%	5.28%
Transformation Capacity (MVA)	6,58,949	9,67,893	10,25,468	5.95%	9.25%
Inter-Regional Power Transfer Capacity (MW)	58,050	1,02,050	1,05,050	2.94%	12.59%
Inter-Regional Power Transfer (BU)	117.03	197.21	214.77	8.90%	12.91%
Power Markets					
Short Term Transactions (Nos.)	44,634	50,948	69,036	35.50%	9.11%
Short Term Transactions (Energy Transacted) BU	98.09	117.36	123.67	5.38%	4.74%
Power Supply Position					
Peak Demand (GW)	153.37	183.8	190.20	3.48% (Demand)	4.40% (Demand)
Peak Demand-Met (GW)	148.46	182.53	189.40		
Deficit (%)	3.2%	0.7%	0.4%		
Energy Demand (BU)	1114.41	1291.01	1,275.53	-1.20% (Demand)	2.74% (Demand)
Energy Met (BU)	1090.85	1284.44	1,270.66		
Deficit (%)	2.1%	0.5%	0.4%		

However, despite reduction in peak power and energy deficits over the years, many parts of the country continue to face power shortages due to inadequate growth of transmission and distribution infrastructure in the States and poor financial health of the State power utilities. For the distribution sector, Government of India has undertaken a number of key initiatives like Integrated Power Development Scheme (IPDS) to facilitate state utilities to ensure quality and reliable 24x7 power supply in the urban areas, for 100 per cent village electrification under Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), universal household electrification under 'Pradhan Mantri Sahaj Bijli Har Ghar Yojana' (SAUBHAGYA), Ujwal DISCOM Assurance Yojana Scheme (UDAY) for improving operational efficiency of DISCOMs, Unnat Jyoti by Affordable LEDs for All (UJALA) to promote the efficient usage of energy and initiatives under Aatmanirbhar Bharat scheme.

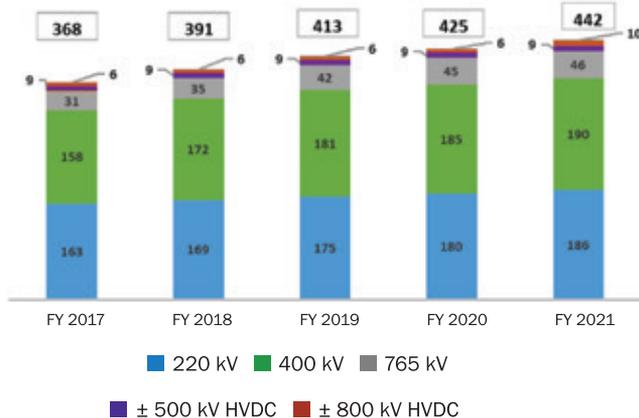
Growth in the Power Sector during last five years

During the last 5 years, there has been consistent growth in the installed generation and transmission infrastructure in the country driven by additions in both thermal and Renewable Energy (RE) generation. Further, the country has been witnessing significant increase in Renewable Energy (RE) capacity addition.

Installed Generation Capacity ('000 MW)



Transmission Line ('000 ckm) Growth



Transformation Capacity ('000 MVA)



(Source: CEA)

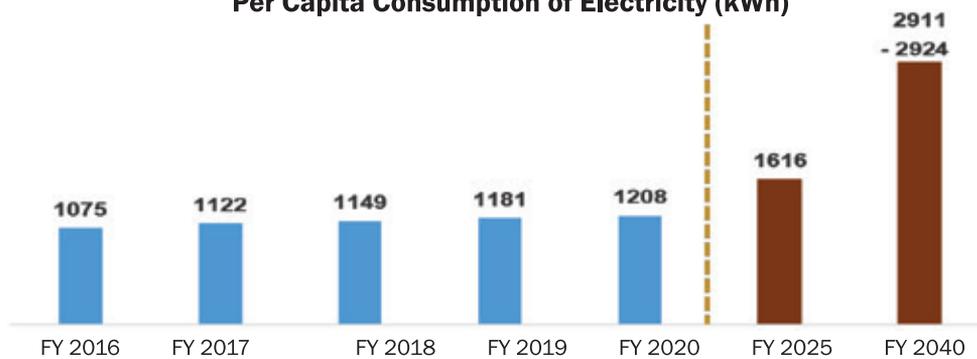
Sector Outlook & Key Growth Drivers

Universal access to electricity, growth in consumer income, urbanisation, housing, railways & metros, industrial activities are to fuel India's power demand year on year.

India's low per capita consumption of electricity compared to global average presents significant potential for sustainable growth in power demand in the country.

Government of India under National Infrastructure Pipeline (NIP) has envisioned per capita consumption at 1,616 kWh by 2025. Further, Draft National Energy Policy (NEP) published by the Government in June 2017 envisages country's per capita annual electricity consumption to increase to 2,911 - 2,924 kWh by 2040.

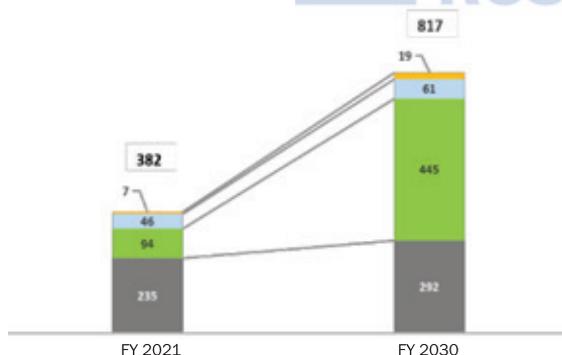
Per Capita Consumption of Electricity (kWh)



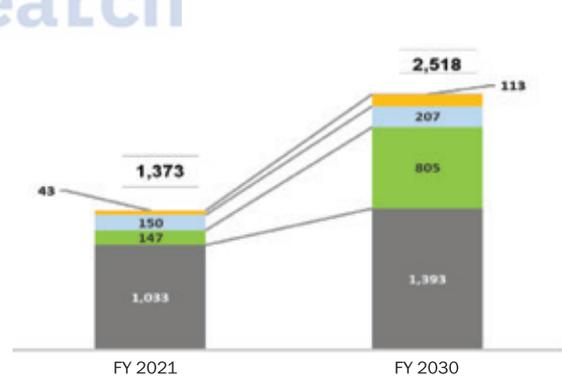
(Source: CEA, draft NEP & NIP)

- RE sector in India is emerging as a significant player in the grid connected power generation capacity and it is gearing up to play a much bigger role in achieving energy security in the years ahead and is an integral part of the energy planning process.
- India is working towards low carbon emission path while meeting its developmental goals. In this regard, as submitted in Intended Nationally Determined Contributions (INDCs), the country is aiming to have 40 % of the total installed capacity by the year 2030 based on non-fossil fuel sources.
- Central Electricity Authority (CEA) in its Report on Optimal Generation Capacity Mix for 2029-30 (January 2020) has envisaged installed generation capacity of 817 GW by 2029-30, of which RE is expected to be approximately 445 GW (55%). Further, the projected gross electricity generation (BU) during the year 2029-30 is likely to be 2,518 BU, of which 805 BU (32%) is expected to be contributed by RE.

Installed Capacity (GW) - Changing Mix



Generation (BU) - Changing Mix



(Source: CEA)

- National Infrastructure Pipeline (NIP) of Govt. of India envisages a cumulative capital expenditure of ~ ₹ 17 lakh crore during FY 22-25, in the area of Power and Renewable Energy. The 'Vision 2025' for power sector set under the NIP includes following:
 - 24x7 clean and affordable power to all households, industry, commercial businesses, agriculture in all states and union territories
 - Total capacity: 583 GW (Thermal: 50%, renewable: 39%, hydro: 9%, nuclear: 2%)
 - Increase in RE share and decline in share of thermal in generation capacity
 - Increase in per-capita electricity consumption to 1,616 kWh
 - Increase in RE share in consumption to ~20%
 - Promotion to grid energy storage and offshore wind energy

- Reform in DISCOMS - Open access in power distribution, cost reflective tariffs, extensive metering, subsidies through direct benefit transfer from government
- Incentive for roof-top solar energy production
- Smart metering for all categories of customers
- All related services on digital platform
- EV charging infrastructure

2. Transmission Sector

Transmission sector plays a vital role in the power system value chain. Country's transmission system has expanded at a significant pace driven by growing demand, connecting the generating stations including integration of Renewable Energy (RE) sources from the RE rich states.

Country's vision of achieving renewable power capacity targets of 175 GW by 2022 and 445 GW by 2030 also offers enormous growth opportunities for addition of transmission capacity both at interstate and intra-state levels. Government thrust on various policies and regulatory reforms in the power sector are expected to bring new business opportunities.

3. OPPORTUNITIES AND THREATS/ CHALLENGES

The Government of India, focused on long term energy security as well as kick-starting the growth of economy towards World's Third largest economy, has been consistently addressing both supply and demand side issues through policy and reforms for ensuring sustained development of the Indian Power Sector. Growing power demand as a result of Govt.'s focus on improving the distribution sector- the last mile in power; addition of RE capacity; addition of capacities in conventional generation sources; cross-border linkages and adoption of new technologies to address challenges linked to RE integration are likely to be the growth drivers for power transmission in India.

Covid-19 pandemic is not expected to change the long-term direction of Indian power sector or power transmission requirements, although spreading of the pandemic may lead to lockdowns, or logistical disruptions, impacting project execution timelines in the short term. Considering progressive relaxations in lockdowns and increase in economic activity, your Company is making all efforts to make up for the lost time due to lockdowns and does not envisage any major disruption in its business. The Atmanirbhar Bharat Scheme announced by Govt. also provides relief to the contractors for fulfilling their contractual obligations.

Transmission:

(i) Inter-State Transmission driven by RE Integration

Govt. of India has set target to achieve **RE target of 445 GW**, more than **50%** share of planned generation capacity (817 GW) by year 2030 to address climate change and sustainability. By December 2022, the country has set a target of 175 GW renewable capacity. To achieve this, a comprehensive transmission scheme for 66.5 GW with estimated cost of ₹ 36,000 crore was evolved for integrating renewable energy zones in the states of Tamil Nadu, Andhra Pradesh, Karnataka, Gujarat, Maharashtra, Rajasthan and Madhya Pradesh, so far, transmission projects worth ₹ 20,200 crore have been awarded and approx. ₹ 9,300 crore have been bid out. And, the balance projects are under various stage of planning and discussion.

Further, in order to tap abundantly available renewable energy potential (Solar & Wind) in UT of Ladakh, Hon'ble Prime Minister of India in his Independence Day Speech on August 15, 2020, announced development of solar energy park in Ladakh. Taking this forward, feasibility assessment of transmission system for evacuation of **10 GW project** (5 GW each in Pang and Nyoma regions of Leh) has also been carried out and is under consideration by Govt of India. The project is proposed to be implemented in two phases, starting with first phase involving evacuation of 5 GW RE power through Pang – Kaithal HVDC link alongwith 12 GWh Battery Energy Storage System (BESS) and the second phase, 5 GW through Nyoma -Kashipur HVDC link.

Due to intermittency of renewable sources, managing system flexibility in terms of steeper ramp rates and peaking load requirements is proposed through large scale deployment of BESS. As such, Country needs to deploy battery energy storage systems at large scale in the power sector to facilitate increased penetration of RE capacity. In this direction, requirement of about 27 GW/108 GWh energy storage system including BESS, by 2030, has been identified by Govt. of India.

(ii) Intra-State Transmission

The growing penetration of renewables calls for matching development of Intra state transmission systems to achieve the last mile connectivity. Also, the per capita power consumption aspirations for particular state is set to determine landscape of intra state network to match with demand side requirement. With introduction of revamped distribution scheme by Govt of India, there seems to be uptick in enabling transmission network requirements. In addition to this, National Infrastructure Pipeline for Power Sector also envisage investment opportunities of about ₹ 2 lakh crore in Intra-State transmission for the period FY 20 to FY 25. States have started inviting investment in development of Intra state transmission system by awarding works through TBCB route. As on 30.06.21, your company has commissioned first Intra State TBCB project (POWERGRID Jawahar- Firozabad Tr. System) in the state of U.P. and is also bidding for projects (approx. cost ₹ 1500 crore) in the state of U.P. & Rajasthan.

The ongoing initiatives of Govt. of India and demand growth projections have spurred the investment opportunities in Intra state space through joint venture with prospective states and other various modes like extending consultancy services on project management, engineering solutions etc.

(iii) Cross-Border Inter-connections

The cross-border power transfer by India with neighboring countries is taking place through inter-Governmental bilateral cooperation which plans for cross border interconnection, system operation, etc. India's vision to have a multi-country grid (SAARC/ BIMSTEC) for optimal utilization of resources in the region can be achieved through creation of additional and strengthening of existing cross- border interconnections. In this direction, "Guidelines on Cross Border Trade of Electricity" and (Cross Border Trade of Electricity) Regulations, 2019 have been issued by GoI and CERC respectively.

India is connected with its neighboring countries, Nepal, Bhutan, Bangladesh and Myanmar through various electrical interconnections with a cumulative power transfer capacity of about 4230 MW. In this direction, in Nov 2020 the Muzaffarpur – Dhalkebar transmission line between India and Nepal was successfully charged at its rated voltage of 400 kV. The link has been further strengthened by commissioning of 400 kV D/c Behrampur (PG) - Bheramera (B'Desh) Transmission line (2nd D/c).

In addition, Govt of India has assigned prestigious 765 kV Kathihar(Bihar) - Parbotipur(Bangladesh) - Bornagar(Assam) project to your company under Regulated Tariff Mechanism (RTM). Also, for enhancing the connectivity with Nepal, formation of JV (50:50) between POWERGRID and NEA is underway for construction of Indian portion of 400 kV D/C Gorakhpur – New Butwal Transmission line.

These interconnections are being further strengthened for increased mutual exchange of power through additional cross-border links. The Govt. has been in discussions with Myanmar and Sri Lanka for establishing interconnections with these countries. The power transfer capacity is planned to increase to about 6,450 MW progressively in next few years. These are expected to provide new opportunities for Cross Trade of Electricity.

(iv) Other emerging opportunities

The Central Government has approved a Revamped Distribution Sector Scheme- a reform-based and results-linked Scheme with an outlay of ₹ 3,03,758 crore over a period of five years from FY 2021-22 to FY 2025-26 with objective to improve quality, reliability and affordability of power supply to consumers through a financially sustainable and operationally efficient distribution sector. The scheme has been envisaged to improve operational efficiencies and financial sustainability of all DISCOMs/Power Departments and shall involve a compulsory smart metering ecosystem across the distribution sector-starting from electricity feeders to consumer level for about 25 crore households. This initiative shall pave the ways for capital investment opportunities along with other modes like consulting services/ handholding to prospective states.

The changing landscape of Indian Power Sector together with other developments like smart cities, digitization, railway electrification, energy security, demand side management, electric vehicles, and improving financial health of DISCOMs with focus on customer is creating business opportunities, which could be in the field of Consultancy and Telecom as well newer areas of battery storage, distribution, smart grid and smart cities, advance metering infrastructure, railways etc.

The transition to electric mobility is a promising global strategy for decarbonizing the transport sector. India is among a handful of countries that support the global EV30@30 campaign, which targets to have at least 30% new vehicle sales be electric by 2030. An accessible and robust network of electric vehicle (EV) charging infrastructure is an essential pre-requisite to achieve this ambitious transition. The Government of India has instituted various enabling policies to promote the development of the charging infrastructure network.

Your Company, with its vast experience and excellent relationship with the States is at the forefront to capitalize on emerging opportunities.

4. Company's Outlook

(i) Transmission

Your Company, India's principal power transmission company, is operating primarily in inter-State transmission sector and is one of the largest transmission companies in the world. The company's robust & large power transmission network (alongwith its subsidiaries acquired through tariff based competitive bidding) alongwith other business segments, i.e. Telecom, consultancy etc. are discussed in the Director's Report.

Your Company is a leader in the sector. Looking to the substantial growth opportunities in the Indian power transmission sector discussed above, your Company is geared up to garner a substantial portion of the business potential in the sector.

Your Company had been discharging statutory functions of India's Central Transmission Utility (CTU) since 1998. Gol has notified 'Central Transmission Utility of India Limited' (CTUIL), a Government Company and wholly owned Subsidiary of POWERGRID, as 'Central Transmission Utility' (CTU) with effect from April 1, 2021 to undertake and discharge all functions of CTU pursuant to the provisions of the Electricity Act, 2003. Your Company shall continue to be a deemed Transmission Licensee under the Act and discharge functions incidental and connected therewith.

The CTU functions are not commercial oriented and therefore are not expected to have material impact on the business operations of the Company.

(ii) Telecom

Primarily to meet the critical communication requirements for safe and reliable grid operations, your Company has set up a pan India fiber optic-based communication network. The spare capacity of the telecom infrastructure so available is being utilized for providing commercial telecom services to various customers inter alia including telecom service providers, IT companies, Govt. Deptts., PSUs, State Govts., Defence establishments etc.

Telecommunication is one of the critical infrastructures for economic growth and has been recognized as a powerful tool of development and poverty reduction through empowerment of masses, reflecting its growing reach, better network adoption of tools and solutions that enhance digitization of systems, process and interaction across sectors. It is one of the key elements of the Sustainable Development Goal (SDGs) of the United Nations Agenda for Sustainable Development for 2030. Bridging the digital divide is crucial to ensure equal access to information and knowledge, as well as foster innovation and entrepreneurship.

The digital products and services offered by telecom service providers and OTT players and falling retail tariffs have led to consistent increase in consumption of data over the past years. During the prevailing Covid-19 pandemic, the telecom segment has been the beneficiary as the switch over to work from home and social distancing has opened up new vistas for data consumption, especially in the areas of education, meetings, conferences, seminars, healthcare etc., thereby accelerating India's digital transformation.

The latest technological advancements in the telecom sector such as 5G, Internet of Things (IoT), Machine to Machine (M2M) interface, etc. will accelerate the need for telecom networks and technologies which are likely to provide growth opportunities for service providers like POWERGRID for expanding not only the availability of telecom services but also telecom-based services. Further, increased thrust of the government on digitalization of the economy, enhanced data localization accelerated by prevailing geo-political environment are expected to increase the demand for other telecom services as well. To harness the emerging opportunities in the sector, your Company has undertaken formation of a wholly owned telecom subsidiary company. Approval from Gol & CERC has been received for formation of wholly owned subsidiary Company for Telecom business.

Your Company is exploring new business opportunities within the telecom segment viz. setting up of Data Centres, International Long Distance (ILD) Bandwidth Business to directly serve neighboring countries with reliable connectivity. POWERGRID has applied to the Department of Telecommunication (DoT) for grant of ILD service authorization in its existing Unified License. Your Company is geared up to tap these opportunities and has been continuously augmenting its all-India telecom network by enhancing new bandwidth capacity in existing routes, adding new routes and new locations. Accordingly, your Company is establishing 200 G based DWDM system and has established separate 100 G internet network with SD-WAN and D-DOS facility.

(iii) Consultancy - Domestic & International

Your Company, with its strong in-house expertise in transmission, sub-transmission and telecom sectors is offering consultancy services to domestic and international clients. On domestic front, its clients include various Government

agencies and departments, CPSEs, state and private power utilities and the Indian Railways and other government entities like NHAI and state departments. Your company is playing a key-role in setting up transmission infrastructure related to the RE generation plants being setup by Renewable Energy project developers by providing POWERGRID's consultancy services for engineering solutions and other allied activities.

Your Company has so far established foot prints in 21 Countries spread across Asia, Africa, CIS countries and Asia-Pacific by providing Consultancy, Project Management and Asset Management Services to various clients which include state-owned power utilities, multilateral funding agencies like World Bank & ADB, IFC and Govt. of India. In line with its stated Vision - to be Global Transmission Company with Leadership in Emerging Markets and as part of Govt. of India's global outreach aspirations from its Maharatna CPSEs, your Company is also exploring global opportunities in power transmission. Based on its past experience, your Company is continuously scouting for opportunities in Africa, Asia, Middle East and CIS countries.

Last year, your Company entered into an agreement with Africa50 for undertaking PPP projects in the African continent, in this direction further steps for investment in Kenya under PPP mode through a Joint Venture with Africa50 have been under taken during the year.

International travel restrictions in view of repeated lockdowns due to the Covid-19 pandemic crisis in various parts of the world have impacted the inflow for expression of interest and finalization of earlier submitted proposals. The Company expects acceleration in business activities to coincide with global recovery.

Your Company's performance and latest status of works under implementation has been discussed in the Directors' Report.

(iv) Energy Management

Government is focusing on leveraging energy efficiency across the economy for long term sustainability of energy. The Company has been providing services in this area for past few years. The Company is a BEE Grade-1 ESCO (Energy Service Company) for taking up energy efficiency projects in India and has large pool of energy auditors. The Company is regularly exploring opportunities in the area of energy efficiency and demand side management. Opportunities are seen to exist in waste-to-energy, agriculture and induction motor replacement projects for States. Your Company expects to explore opportunities in these areas with various States and other establishments in the coming year and intends to set up a subsidiary for taking up energy management assignments.

(v) Other emerging opportunities

Driven by the years of sectoral knowledge, large pool of experienced professionals and the confidence of Govt. of India & the state governments, the Company has been regularly undertaking assignments in the various emerging business areas with related adjacencies to power like distribution, railway electrification, and new areas like energy efficiency, smart city and smart grid, EV fast-charging infrastructure and has undertaken pilot projects in smart grid in distribution and grid scale battery storage. POWERGRID Advanced Research and Technology Centre (PARTeC), set up by your Company houses various state-of-the-art laboratories. The facility has commenced extending expert services for research, analysis, testing and calibration and expects to take this opportunity forward. With the hiving off CTU status, your Company is now exploring business opportunities in the Solar Power Generation also.

5. Major Constraints / Challenges / Threats faced in construction, operation & maintenance of Transmission systems and mitigation thereof:

5.1 Conserving Right-of-Way (RoW) through forests, agricultural land, urban areas, industrial establishments as well as other infrastructure, upgradation of transfer capacity of lines matching with power transfer requirement, land availability & acquisition for substations are major areas of concern in development of transmission network in the country.

A) Major constraints & concerns and your Company's efforts in development, operation & maintenance of ISTS are:

i. Challenges in Construction

- a) Right of Way (RoW) constraints;
- b) Difficulty in acquisition of land for construction of substation;
- c) Expeditious Forest clearance;



- d) Inadequate skilled manpower in transmission line construction activities and in the area of new technologies.
- e) Capacity Building in in the area of new technologies.

II. **Challenges in Operations and Maintenance**

Your Company has been managing its vast transmission network which is expanding and getting complex along with ageing assets. For maintaining high level of transmission system availability, your Company has been aiming at improving operational efficiency.

B) Initiatives to address/ mitigate the above challenges / concerns

Your Company has been taking various initiatives to address/ mitigate the above concerns through introduction as well as deployment of new technologies in the Indian power systems, which are discussed herein below:

a) Addressing Right of Way (RoW) constraints:

Your Company has been adopting higher voltage levels, specially designed towers and new technologies to gradually increase the power carrying capacity of transmission lines to optimize the RoW requirement. Some of the technological initiatives taken by your Company are as under:

- **Route alignment & detailed survey using modern techniques**

Surveying is an important aspect of transmission line for the purpose of assessing RoW and optimizing the cost of transmission line based on selecting the shortest route, selection of optimum foundations based on type of terrain, areas prone to landslides, submergence, minimizing number of river-crossing towers, accessibility/ approachability for construction as well as from law-and-order point of view, etc. Alignments are considered keeping in mind the above- mentioned factors during site selection, with minor alterations often added to avoid environmentally sensitive areas and settlements at execution stage.

Your Company has been using modern techniques for route alignment viz. GIS/ GPS, satellite imaging etc., which helped in detailed mapping of the right-of-way, ground profiling along with geographical details of the location, site constraints, etc.

- **Adoption of higher voltage for bulk power transfer**

With introduction of higher capacity transmission systems like 765 kV Double Circuit transmission lines, ± 800 kV HVDC, considerable reduction could be achieved in RoW requirement per MW of power transfer e.g. For transfer of bulk power to Southern Region, ± 800 kV 6000 MW HVDC link between Raigarh to Pugalur is under commissioning. For transfer of 2000 MW power to Kerala, your Company is implementing state-of-the-art ± 320 kV HVDC VSC technology partly overhead using narrow based towers and partly underground with 320 kV DC XLPE cable to take care of RoW issues.

Towards development of 1200kV Ultra High Voltage (UHV) AC technology, the highest transmission voltage level in the world, your Company has successfully established a 1200 kV UHVAC National Test Station at Bina and commissioned 1200kV single and double circuit transmission line sections along with associated 1200 kV Bays as a pilot project using indigenously developed equipment. The power flow through 1200kV National Test Station has commenced successfully. This has facilitated availability of UHV class equipment in India. Long-term field operations and tests are being carried out for performance monitoring of 1200kV UHVAC equipment.

- **Use of High-Performance Conductors in existing & new lines**

High performance conductors of different configurations having the capacity to carry more power within the same transmission corridor does away with the need of creating new parallel corridors and helps in conservation of scarce land, RoW and forest resources, etc. Keeping in view the aforesaid advantages, your Company undertook re-conductoring of some of the existing lines where power flow constraints were experienced. Your Company has used twin HTLS conductors instead of quad / triple bundle ACSR conductors in multi-circuit stretches. The Company had deployed high-capacity Aluminum alloy conductor i.e. Al59 conductor (having capacity ~25- 30% higher than conventional ACSR conductor) and ACSS type HTLS conductor.

- **Selection of appropriate type of towers**

Proper design and construction of transmission line towers is not only important for speedy implementation of projects; safe & reliable operation of power system but also assume great significance in cost of the project and conservation of RoW. A large number of tower designs, around 250 numbers, for different wind zones, configurations, complexities & voltage levels have been developed & successfully tested by your Company in its endeavour to address problem in densely populated urban areas, conservation of forest & scarce RoW, etc. Further, pole structures for 220kV, +/-320kV HVDC, 400kV and 765kV voltage level have also been successfully developed and tested and are being used in areas having severe ROW constraints. Narrow base towers have also been developed for minimizing land use of transmission lines.

b) Managing scarcity of land for construction of Substation

In order to reduce problems of land acquisition and related Rehabilitation & Resettlement and to reduce the substation land requirement, your Company has constantly upgraded and improvised by investing in new technologies like Gas Insulated Substations (GIS) and Hybrid sub-station which requires substantially lesser land area in comparison to the conventional Air Insulated substations (AIS). Subsequent to commissioning its first GIS in the year 2007, your Company, along with its subsidiaries, owned 45 GIS substations at the end of FY 2020-21.

Further, to facilitate the power evacuation for renewable generation, in many substations, where additional capacities (bays) are required to be created, your Company advocated the hybrid technology to utilize the space efficiently and quickly.

c) Overcoming Forest Clearances challenges

Timely forest clearances, wherever applicable, are key to timely completion of projects. Your Company's concerted efforts and various proactive decisions of Ministry of Environment, Forests & Climate Change (MoEFCC), Govt. of India have largely simplified the forest clearance process particularly for linear projects including transmission lines. Moreover, making forest clearance process online and time bound also helped in expediting the process by the concerned forest officials. Forest clearance process also involves payment of consideration to the Government, thereby facilitating enhancement of green cover as the consideration paid for compensatory afforestation is utilized to develop forest cover.

d) Addressing issues of inadequate skilled manpower in construction activities:

For overall skill development in the country, particularly in the area of Power Transmission Line Construction, capacity building programmes are being conducted and continuously the youths are being trainee as continued process. During the year 2020-21, although the process is little bit slowed due to covid but your company is hopeful it will pick up again.

e) Capacity Building in in the area of new technologies:

In new technology area, particularly in the field of Fault Current limiting series reactor, STATCOM etc. to create enough capacities, your company emphasized particularly in the field of STATCOM to supply at least one unit from India in case of multiple units. This strategy has created manufacturing capacities of various manufacturers and a least 3 units are already started manufacturing the STATCOM valves in India.

C) Increasing operational & maintenance efficiency

Your Company is geared up to consistently maintain the high standards of availability and reliability of its transmission system through use of latest state-of-art maintenance practices. Maintenance activities are planned well in advance and an 'Annual Maintenance Plan' is prepared for every asset through live line or shutdown maintenance, as per technical feasibility.

The proactive approach of your Company in managing the maintenance and refurbishment of the transmission assets has minimized the tripping of lines especially due to fog, pollution and other natural causes. The software tool, Transformer Online Condition Monitoring System (TOCMS), is operational at NTAMC and RTAMC. Your Company has adopted the latest available technological tools and techniques for better operational performance and in this direction following latest technologies have been adopted by your Company:



(i) Development and operationalization of Software based Transformer Health Indexing System:

Your Company has a high population of transformers and reactors, which are the most critical assets of a transmission system. Condition monitoring of these critical and costly equipment is of prime importance and therefore, to assess their condition in a more efficient way, your Company has developed a software tool which ranks their health based on the assessed condition. This software system, POWERGRID Asset Life Management System (PALMS), is operational and is enabling asset managers in timely and appropriate decision making. The Company intends to use this system for residual life assessment of Transformers and Reactors, in future.

(ii) Adoption of latest technology for better availability of transmission lines

- **Aerial patrolling of transmission lines** is being carried out by your Company using Helicopter equipped with Gimbal mounted LIDAR (Light Detection and Ranging), Thermo-vision Camera, Corona Camera, high resolution video and digital camera to identify the defects.

Your Company has developed an application for patrolling of transmission lines. Patrolling of towers and defects rectification is being ensured through the APP. This helps in updating of data on real time basis which results into effective monitoring of critical locations.

- **Transmission Line Arrester**

Your Company always gives priority in implementation of state-of-the-art technology in Operation and Maintenance of Transmission assets. First time in the country 400kV Transmission line arresters (TLA) have been designed and commissioned in Transmission lines of Sothern Region to prevent tripping on account of lightning which improves reliability and availability of the transmission lines.

- **Online fault locator**

Travelling Wave online fault locator has been implemented in a number of high-capacity lines for accurate estimation of fault locations. This has helped in reducing the downtime of transmission lines by identifying the faults in the shortest possible time.

- **Digital Tele Protection System:**

The digital protection coupler is being used, over OPGW network, for implementation of reliable tele-protection scheme. This has improved noise immunity of tele protection system, thereby eliminating any possibility of malfunction of trip transfer scheme.

State-of-the-art condition monitoring techniques for substation equipment are being used for detection of defects at incipient stage. These include, variable frequency capacitance and tan-delta measurement for Transformer/ Reactor bushings and Current Transformer, Dynamic Contact Resistance Measurement for Circuit Breakers, Third Harmonic Resistive Current measurement for Surge Arrestors, Thermo-vision scanning of substation equipment, Partial Discharge measurement in GIS etc. These techniques have proved to be very useful in detection of defects at an early stage. Preventive/ corrective actions were taken in advance and major failures were averted. In addition, periodic oil parameter checks, Dissolved Gas Analysis (DGA) of Transformers/ Reactors, particle counts, inhibitor content test are very useful for diagnosis of the problem and life enhancement of the Transformers/Reactors, which your Company has implemented successfully.

- **Implementation of Series Reactor:**

Increase in interconnections and concentration of generation / loads have caused increase in short circuit level. In certain areas, these short circuit levels are reaching to the maximum capability of equipment which is in operation and it is expected to go beyond the present capability in future. In recent years, your Company has installed and commissioned 4 numbers of Series Reactor at Ballabhgarh and Mandola substations in National Capital Region (NCR) area to take care of the existing substations.

- **Introduction of Resin Impregnated paper bushings and other developments related to bushings:**

To prevent failure of transformers & reactors on account of bushing failures, POWERGRID had earlier adopted Resin Impregnated Paper (RIP) bushings instead of Oil Impregnated Paper (OIP) bushings, which resulted in significant reduction in failure of transformers & reactors. Considering the benefits accrued and feedback received on adoption and operation of Resin Impregnated Paper (RIP) bushings at 400 kV voltage level Transformers and Reactors, your Company has facilitated development of 800kV RIP bushings for introduction in 800kV Transformers and Reactors too. These bushings are expected to reduce consequential damages in an unlikely event of failure.

Further, with the development of Resin Impregnated Synthetics (RIS) / Resin Impregnated Fiberglass (RIF) bushings and their added advantages over OIP & RIP bushings, POWERGRID now intends to adopt RIS/ RIF bushings also for future projects.

- **Digital Substations:**

Gaining experience from the pilot projects on Process Bus Technology at Bhiwadi and Neemrana substations, your Company has initiated a project for retrofitting conventional protection and control schemes with advanced automation systems. As a part of it, POWERGRID commissioned India's first 400kV Digital Substation based on IEC 61850 Process Bus at Malerkotla, Punjab on 16th December, 2020. With this POWERGRID becomes one of the very few utilities in the world to retrofit a complete substation with full digital technology.

Also your Company is establishing a digital sub-station at Chandigarh based on process bus technology. The new scheme is expected to ease the maintenance, simplify trouble shooting and reduce restoration time in case of any eventuality besides reduction of carbon footprint by replacing large amount of copper cables with minimal fiber optic cables.

- Your Company has installed a number of state-of-the art Static Synchronous Compensators (STATCOMs) in the 400kV grid to improve the grid reliability and voltage stability limit. Company has commissioned STATCOMs at Solapur, Aurangabad, Satna & Gwalior in Western Region; Lucknow & Nalagarh in Northern Region; Ranchi, Rourkela, Jeypore & Kishanganj in Eastern Region; and Udumalpet, Trichi, Hyderabad & NP Kunta in Southern Region.

Further one Thyristor Controller Reactor (500 MVAR) in Kurukshetra is also being implemented to improve the static as well as dynamic voltage profile of Kurukshetra HVDC station.

- **Refurbishment of HVDC:**

Refurbishment of +/- 2x250 MW HVDC Vindhyachal and +/- 500 kV, 1500MW bipole HVDC Rihand-Dadri is being done to extend the life of projects which has served the Indian Power System for more than 25 years. Only obsolete equipment and systems of these HVDC terminals are being replaced and integrated with the existing system. Refurbishment of HVDC system is being done for first time in India and will be a new and learning experience. The work of refurbishment is planned to be completed during this financial year. This will enhance the operating life of these HVDC Assets of your company by approx 10 years.

- **Formation of maintenance expert group:**

As a part of continual improvement and enhancement of skilled manpower in the company expert groups for transformers, HVDC specialist group, GIS, Switchgear, SVC/STATCOM etc., have been formed to reinforce the competency of manpower and early restoration of system in case of failures.

5.2 Due to the COVID pandemic, a nationwide lockdown was announced by the Government of India effective from 25th March 2020. As per the Government guidelines, transmission units and services were identified as essential services and were therefore exempted from the lockdown. On the operations front, the Company issued guidelines and protocols for carrying out operations and maintenance of its units and ensured that there was no adverse impact on the availability of its transmission system. This could be achieved through enhanced use of automation and digital solutions. On the project implementation front, the Company's construction activities were adversely impacted during the lockdown period due to disruptions in supply chain and manpower availability. Subsequent to phase-wise lifting of the lockdown and progressive commencement of economic activity, the project implementation has improved.



Further, looking into the difficulties faced by the transmission service providers and to mitigate the same, Govt. of India has given an extension of five months in respect of scheduled commercial operation date for transmission projects under construction as on March 25, 2020. Govt. of India has also announced measures to facilitate the liquidation of outstanding dues of the utilities.

There has been no material impact on the operations or profitability of the company during the financial year due to the pandemic. However, the impact assessment of COVID 19 is a continuing process given the uncertainties associated with its nature and duration and the company will continue to monitor the situation for any material changes.

6. Environment & Social Management

As has been established by many studies the transmission projects are by and large environmentally benign due to inherent flexibility both in choosing most optimum line alignment as well as in finalizing the substation site avoiding likely social issues associated with land. However, as a responsible and environmentally conscious corporate entity we commit ourselves to the goal of sustainable development in line with its well-defined Environmental and Social Policy & Procedures (ESPP) right from our earlier establishment days. The ESPP outlines its approach and commitment to deal with environmental and social issues and lays out management procedures and protocols to address the same. It lays a framework for identification, assessment and management for environmental and social concerns at organizational and project level on the well tested principles of Avoidance, Minimization and Mitigation with provision of restoration too. The comprehensive coverage and content of the ESPP can be judged by the fact that it has been accepted by two leading Multilateral Agencies of the world i.e. The World Bank and ADB under their Use of Country System (UCS) and Country Safeguard System (CSS) policy in 2009 and 2017 respectively and accepted by other multilateral agencies like AIIB, KfW etc.

As a environmentally conscious Company we go beyond the mandate of law and undertakes detailed Environmental & Social Assessment of its projects in line with provisions of ESPP. Another important feature of ESPP is to develop project specific Environment Management Plan (EMP) listing all possible E & S impacts associated with the project and their possible mitigation measures with clear responsibility allocation. The EMP so finalised is made part of contract condition to ensure its proper implementation even by the contractors.

Management of land issues has become a key challenge in recent times and as such securing land for infrastructure projects is becoming increasingly challenging. In this regard too, your company apart from technical initiatives like preferring GIS over AIS to reduce land area has also taken many proactive decisions like securing land through direct purchase instead of using involuntary mode of land acquisition by invoking provision of applicable act which resulted in smooth and resistance free acquisition of land for its substation.

Obtaining Right of Way (ROW) for ever increasing transmission lines has assumed a gigantic contour affecting implementation of mostly all transmission projects across all regions of country. However, allowing compensation for land for tower base and diminishing value of land for RoW corridor as per MoP guidelines by many States have come quite handy in addressing this problem and facilitating smooth implementation of projects. Your company is in fore front of not only advocating such initiatives but has also demonstrated in disbursing such additional compensation in the States which have already adopted this measure.

Being a leader in Sustainability Reporting in Indian Power Sector, your company released its 6th biennial sustainability report for FY 2017-19 in September, 2020 based on internationally acclaimed/accepted "Global Reporting Initiative (GRI) Standards (Core)" duly validated by independent Accredited Assurance Provider based on International Standards like Accountability's AA1000AS (2008) & AA1000AP (2018). Further, your company in partnership with Global Reporting Initiative (GRI) South Asia taken several initiatives towards fulfilment of India's commitment to United Nation's Sustainable Development Goals (SDGs) Agenda 2030 and has already aligned its activities with 11 SDGs out of total 17.

7. Revenue Related Risk:

The regulatory framework in India is evolving continuously and regulatory changes, if any, could have an impact on our business, results of operations and financial condition. Ministry of Power, Government of India, Central Electricity Regulatory Commission, and Central Electricity Authority are bringing out necessary changes from time to time to address the issues affecting the growth of the sector.

Your Company implements Inter-state transmission System (ISTS) projects either through Regulated Tariff Mechanism (RTM) or Tariff Based Competitive Bidding (TBCB) routes. Primarily, for TBCB projects the tariff is discovered through competitive bidding process & adopted by CERC and for RTM projects tariff is determined by CERC after prudence check as per the prevalent tariff regulations.

The element wise tariff determined by CERC for various RTM projects and tariff adopted by CERC for TBCB projects is pooled together and shared by various DICs in the country as per the CERC Sharing Regulations.

Tariff Regulations, 2019

The transmission charges of your Company’s assets are regulated by Central Electricity Regulatory Commission and are determined by tariff norms which are applicable for a period of 5 years. CERC vide notification dated 7th March, 2019 notified the Tariff Regulations applicable for transmission system including communication system used for inter-state transmission of electricity for the Tariff Block 2019-24, which is effective from 01.04.2019 and shall remain in force till 31.03.2024.

CERC Sharing Regulations

The Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 which came into effect from 01.07.2011, provided for computation of Point of Connection (PoC) charges and losses by introducing methodology for sharing of transmission charges. There had been six amendments to Sharing Regulations, 2010. States namely Bihar, Odisha, West Bengal, Maharashtra and Jharkhand had challenged the aforesaid sharing methodology in the court of law and final decision is awaited. In terms of interim order of the Delhi High Court, all the above States are, however, making payment as per said Regulation.

CERC vide notification No. L-1/250/2019/CERC dated 4th May 2020 came out with Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020. These regulations are applicable to all Designated ISTS Customers (DICs), Inter-State Transmission Licensees, National Load Despatch Centre (NLDC), Regional Load Despatch Centres (RLDCs), State Load Despatch Centres (SLDCs) and Regional Power Committees (RPCs). The sharing methodology under these regulations shall be on ex-post basis based on monthly actual load flow scenario. These regulations came into force with effect from 1st November 2020 superseding the CERC (Sharing of inter-state transmission charges and losses) Regulations, 2010.

Mismatch in commissioning

Despite best possible coordinated efforts, there could be mismatch in the commissioning of generation units vis-à-vis the associated transmission system due to delays in the materialization of some of the generation projects.

CERC in its Sharing Regulations 2020 has stipulated the methodology for treatment of mismatch with generation and/ or upstream/ downstream network or with ISTS system being developed by other transmission licensees. In case the transmission asset is prevented from regular service due to mismatch in commissioning, your Company can approach CERC for approval of date of commercial operation and payment of transmission charges as per the provisions of tariff regulations and sharing regulations.

Realization of dues by your Company has been fairly good in the recent past, in spite of the stressed financial conditions of the DISCOMS and IPPs. GOI introduced measures like ‘Atamnirbhar equity infusion scheme’ and other reforms to improve the financial condition of the DISCOMS have assisted in realization of dues. In addition, your Company has a payment security mechanism with the State Power Utilities in the form of Letters of Credit (LC) backed by the Tri-Partite Agreements (TPA). As per the provisions of the TPA, the customers are required to establish LC covering 105% of the average monthly billing of your Company for last 12 months. The TPA was signed amongst Government of India (GoI), Reserve Bank of India and the individual State Governments subsequent to the issuance of the One Time Settlement Scheme of State Electricity Boards dues during FY 2001-02 by the GoI, which was valid till Oct.’2016. GoI has approved the extension of these TPAs for a further period of 10 years. Almost all the States/Union Territories have executed the agreements for extension of TPAs except Maharashtra, Punjab, Chandigarh and Puducherry and matter is being pursued with them for signing of the TPA. The TPA also provides that if there is any default in payment of current dues by any State Utility, the outstanding dues beyond 90 days can be deducted from the State’s RBI account and paid to the concerned CPSU. There is also provision for regulation of power by your Company as per CERC regulations in case of non-payment of dues and non-establishment of LC; for termination of Transmission Service Agreement (TSA) in case of default in establishment of LC and payment of transmission charges. Necessary actions are being taken by your Company from time to time to improve the realization of dues from the customers. The Govt. of India, under Atmanirbhar Bharat Scheme, has also allocated ₹ 90,000 crore to inject liquidity for DISCOMS financials.

In respect of trade receivables from Telecom and Consultancy, customer credit risk is managed by regular monitoring of the outstanding receivables and follow-up with the consumer for realization.

8. Risk Management Framework

To manage the uncertainties and complexities associated with Company’s business operations and growth objectives, an Enterprise Risk Management (ERM) framework has been implemented as per SEBI guidelines. ERM is a structured, consistent and continuous process for identification, assessment, monitoring and management of risks. As per this framework, the significant business processes / risks are monitored and controlled through various Key Performance Indicators (KPIs).

Your company has duly constituted a Risk Management Committee and designated a Chief Risk Officer. The said Committee meets quarterly to review KPIs and major business risks and provides corrective measures to improve business process efficiencies, wherever required. The ERM approach has helped the Company to improve strategic decision making within the organization and also in risk mitigation.

Internal Financial Control and Adequacy

POWERGRID has a comprehensive internal control mechanism in place to verify the Accounting and Financial Management System, adequacy of controls, material checks, financial propriety aspects and compliance implementation mechanism. The elaborated guidelines for preparation of Accounts are followed consistently for uniform compliance.

In line with the provisions of Section 179 read with Rule 8 of the Companies (Meetings of Board and its Powers) Rules, 2014 the Internal Auditors were appointed by the Board of Directors. Regular and exhaustive Internal Audit on half yearly basis is carried out by the experienced Cost / Chartered Accountant Firms in close co-ordination with Company's own Internal Audit department to ensure that all checks and balances are in place and all internal controls/systems are in order. The Corporate Internal Audit Department also carries out System Audit and Management Audit to reassure the effectiveness of internal control mechanism. The scope of the Internal Audit is derived from the Internal Audit Plan approved by the Audit Committee.

The Audit Committee meets at regular intervals. The significant / material audit findings are placed before the Audit Committee for review, discussion and subsequent action.

Integrated Management Policy:

POWERGRID is committed to:

- establish and maintain an efficient and effective "National Grid" with due regard to time, cost, technology and value addition,
- sustainable development through conservation of natural resources and adopting environment friendly technology on principles of Avoidance, Minimization and Mitigation,
- ensure safe, occupational hazard free and healthy work environment,
- to the satisfaction of stakeholders in all areas of its activities and shall endeavor to improve continually its management systems and practices in conformity to legal and regulatory provisions.

9. Financial Discussion and Analysis

Comparison of Fiscal 2021 to Fiscal 2020.

(₹ in crore)

Particulars	Fiscal 2021	Fiscal 2020
Revenue from Operations	37,665.65	36,185.54
Other Income	2,861.46	2,132.43
Total	40,527.11	38,317.97

Total income in Fiscal 2021 was ₹ 40,527.11 crore, which represented an increase of 5.77% over the total income of ₹ 38,317.97 crore in Fiscal 2020. In Fiscal 2021, transmission and transmission-related activities constituted 89.96% of our total income, with the balance coming from our consultancy, telecommunication business and other income.

Factors affecting your Company's results of operations

Tariff norms

Our charges for recovery of service provided to transmission customers are governed by tariff norms notified by the CERC pursuant to Central Government Tariff Policy and legislation. CERC Tariff Regulations apply in all cases where tariff for a generating station or a unit thereof and the transmission system or an element thereof, including communication system used for inter-State transmission of electricity is required to be determined by the CERC in accordance with the provisions of Section 62 read with Section 79 of the Electricity Act. However, these Tariff Regulations shall not be applicable to Generating Stations based on Renewable Energy sources and to Generating Stations or Inter-State transmission systems where tariffs have been discovered through competitive bidding.

The generating company/ transmission licensee shall make an application as prescribed in the Tariff Regulations, for determination of tariff based on capital expenditure incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure incurred or projected to be incurred during the balance tariff period of the generating station or the transmission system as the case may be.

Under the Tariff Regulations applicable for Tariff Block 2019-24, your Company has been permitted to charge its customers, the transmission charges for recovery of annual fixed cost ("AFC") consisting of various tariff components such as Return on Equity, Interest on Outstanding Debt, Depreciation, Operation & Maintenance expenditure and Interest on Working Capital.

The Return on Equity (ROE) is computed on pre-tax basis by grossing up the base rate of return on equity of 15.5% at the effective tax rate of the respective financial year. ROE shall be reduced by 1% for such period as may be decided by CERC, if any transmission system is declared under commercial operation without commissioning of data telemetry, communication system up to load dispatch centre or protection system. An additional ROE of 0.5% that was allowed in previous tariff block for project(s) completed within the timelines specified under the CERC Tariff Regulations has been dispensed with in the current Tariff Regulations, 2019.

The repayment of loan capital for each year of the tariff period 2019-24 is deemed to be equal to the depreciation allowed for that year. Despite any moratorium period availed by your company, the repayment of loan is considered for tariff from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

Recovery of Operation & Maintenance (O&M) expenses for maintaining the transmission systems are based on specified norms for Transmission Line, Sub-stations and HVDC systems, etc. O&M norms for Communication System have been introduced in tariff block 2019-24 as 2% of the capital cost subject to actuals at the time of truing up.

For interest on working capital, the working capital amount is calculated as - (i) consisting of receivables equivalent to 45 days of annual fixed cost; (ii) maintenance spares @ 15% of operation and maintenance expenses including security expenses and (iii) operation & maintenance expenses, including security expenses for one month. Rate of interest on working capital for the year is on normative basis and is linked to one year MCLR (Bank Rate) of SBI plus 350 bps as on 1.4.2019 or as on 1st April of the year in which the transmission system is declared under commercial operation during the tariff period 2019-24, whichever is later.

For projects being implemented under Tariff Based Competitive Bidding (TBCB) route, the tariff is discovered through competitive bidding process wherein the successful bidder would be the one who has quoted the lowest levelized tariff for a period of 35 years for establishing transmission projects on a build, own, operate and maintain basis.

The sharing of transmission charges as determined by CERC for cost plus projects and as adopted by CERC for TBCB projects is as per CERC Sharing Regulations.

Besides above rebate for timely payment of transmission charges and late payment surcharge for delayed payments is also applicable as per Tariff Regulations.

As per advisory of MoP, the Central Commission vide its Order dated 3rd April 2020 in Suo Motu Petition No. 6/ SM/2020 relaxed the provisions of Regulation 59 of 2019 Tariff Regulations. The Late Payment Surcharge was reduced from 1.5% p.m. to 1% p.m. for the bills that became due during the period 24th Mar' 20 to 30th June' 20. It was also clarified that for period after 30.06.2020, the concerned distribution company shall be liable to pay the LPS @18% per annum as per Regulation 59 of the 2019 Tariff Regulations.

Subsequently, Ministry of Power, vide Gazette Notification dated 22.02.2021, notified the new Electricity (Late Payment Surcharge) Rules, 2021 with regard to applicability of Late Payment Surcharge for the delayed payment of bills of Generating companies and Transmission companies after the due date. These rules shall come into force w.e.f. the date of Gazette Notification i.e. 22.02.2021. These rules shall be applicable for payments to be made in pursuance of (a) Power Purchase Agreements, Power Supply Agreements and Transmission Service Agreements, in which tariff is determined under section 62 of the Act; and (b) such Power Purchase Agreements, Power Supply Agreements and Transmission Service Agreements that become effective after these rules come into force, in which tariff is determined under section 63 of the Act. The LPS shall be payable on the outstanding dues after 45 days at the "Base rate of Late Payment Surcharge" (means the marginal cost of funds-based lending rate for one year of the State Bank of India, as applicable on the 1st April of the financial year in which the period lies, plus five percent) applicable for the period for the first month of default. The rate of Late Payment Surcharge for the successive months of default shall increase by 0.5 percent for every month of delay provided that the Late Payment Surcharge shall not be more than 3 percent higher than the base rate at any time.

As already mentioned above, Sharing of Inter-state transmission charges is governed by CERC (Sharing of Inter State Transmission Charges and Losses) Regulations, as notified from time to time in line with the National Tariff Policy notified by Govt. of India and provisions of the Electricity Act, 2003. Presently, CERC (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020 are in vogue. These regulations came into force with effect from 1st November 2020 superseding the CERC (Sharing of inter-state transmission charges and losses) Regulations, 2010.

As per the Sharing Regulations, 2020, your Company, as the Central Transmission Utility (CTU), had the responsibility of billing & collecting transmission charges on behalf of all ISTS licensees in the country and also some of the non-ISTS licensees, whose lines have been certified by RPCs to be used as deemed ISTS. and disbursing to them till 31st March 2021. From 01st April 2021, the Central Transmission Utility of India Limited, a wholly owned subsidiary of the Company has started functioning independently as the CTU in line with Govt. of India notification dated 09th March 2021.

Certain expenses and income, allowed under CERC Regulations are required to be reimbursed/passed on to beneficiaries in future, are to be accounted in the Statement of Profit and Loss as per the provisions of IndAS 114 'Regulatory Deferral Accounts'. Such expenses and income, to the extent recoverable/payable as part of tariff under CERC Regulations are treated as Regulatory Deferral Assets/Liabilities.

- **Foreign Exchange Rate Variation**

FERV arising during the construction period for settlement/translation of monetary items (other than non-current loans)denominated in foreign currency to the extent recoverable/payable to the beneficiaries as capital cost as per CERC Tariff Regulations are accounted as Regulatory Deferral Account Balances. In respect of long term foreign currency loan drawn on or after 1st April, 2016, exchange difference to the extent recoverable as per CERC Tariff Regulations are recognised as Regulatory Deferral Account Balances. The company expects to recover these amounts through depreciation component of the tariff over the life of the asset or as exchange rate variation on repayment of the loan.

The tariff norms for the block period 2019-2024 notified by the Central Electricity Regulatory Commission (CERC) 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 transmission income. Accordingly, deferred tax provided during the year ended 31.03.2021 on the transmission income is accounted as 'Deferred Assets against Deferred Tax Liability'. Deferred Assets against Deferred Tax Liability for the year will be reversed in future years (including tax holiday period) when the related deferred tax liability forms a part of current tax.

10. Income

10.1. Revenue from Operations

(₹ in Crore)

Revenue from Operations	Fiscal 2021	Fiscal 2020
Revenue from transmission charges	36,456.92	34,876.35
Consultancy- Project Management & Supervision	501.28	610.98
Revenue from telecom	707.45	698.21
Total	37,665.65	36,185.54

10.2 Revenue from other Services

Your company also earns revenue from Consultancy (including project management and supervision services) and Telecommunication business. Our consultancy income mainly consists of fee for the execution of transmission and communication system-related projects on a turnkey basis and technical consulting assignments for Indian state utilities, joint venture companies and utilities in other countries. The revenue from our telecommunication business is mainly on account of leasing bandwidth of our fibre-optic lines.

10.3 Other Income

Your company's other income was ₹ 2,861.46 crore in Fiscal 2021, an increase of 34.19% over the other income of ₹ 2,132.43 crore during Fiscal 2020.

The other income increased mainly due to increase in interest on loan to Subsidiaries, dividend income from Subsidiaries/Joint Ventures, Surcharge etc.

11. Expenses

Expenses have been categorized as (i) Employees' benefits expense (ii) Finance Costs (iii) Depreciation and Amortization expense (iv) Other expenses.

Your company's total expenditure was ₹ 24,822.40 crore during Fiscal 2021, a decrease of 3.30% over the total expenditure of ₹ 25,670.62 crore during Fiscal 2020. The total expenditure as a percentage of total income was 61.25% Fiscal 2021 as compared to 66.99 % during Fiscal 2020.

11.1 Employees' benefits expense

Employees' benefits expenses include salaries and wages, performance related pay, allowances & benefits, contributions to provident and other funds and staff welfare expenses.

Employee benefit expenses increased by 7.72% to ₹ 2,110.74 crore during Fiscal 2021 from ₹ 1,959.47 crore during Fiscal 2020.

11.2 Finance Cost

Finance cost decreased by 13.38% to ₹ 8,501.01 crore in Fiscal 2021 from ₹ 9,813.62 crore during Fiscal 2020. The decrease was mainly on account of repayment of loans, reduction in interest rate, decrease in exchange rates as compared to previous year.

11.3 Depreciation and Amortisation Expenses

Your company's depreciation and amortization expenses increased by 5.77% to ₹ 11,711.68 crore in Fiscal 2021 from ₹ 11,073.18 crore in Fiscal 2020. The increase was mainly because of the commissioning of new transmission assets.

The depreciation provided is related to transmission business on straight line method following the rates and methodology notified by the CERC for the purpose of tariff.

Depreciation on assets of telecom and consulting business is provided for on straight line method as per useful life specified in Schedule-II of the Companies Act, 2013. ULDC assets commissioned prior to 1st April, 2014 are depreciated on straight line method@ 6.67% per annum.

11.4 Other Expenses

Other expenses primarily consist cost of Repair and Maintenance of Buildings, Plant and Machinery, power charges, security expenses, vehicle hiring charges, travelling expenses, CSR expenses and FERV. Other expenses decreased by 11.52% to ₹ 2,498.97 crore during Fiscal 2021 from ₹ 2,824.35 crore in Fiscal 2020. The decrease in other expenses was mainly on account of decrease in travelling expenses, CSR expenses and FERV etc.

12.0 Profit before Tax & Regulatory Deferral Account Balances

Your company's Profit before Tax & Regulatory Deferral Account Balances during Fiscal 2021 was ₹ 14,626.07 crore, an increase of 15.65% over profit before tax & Regulatory Deferral Account Balances of ₹ 12,647.35 crore during Fiscal 2020.

12.1 Tax Expenses

Tax expenses consist of Current tax and Deferred tax.

12.2 Current Tax

In Fiscal 2021, we provided for ₹ 2529.11 crore as against ₹ 2,230.74 crore during Fiscal 2020.

12.3 Deferred Tax

Provision for deferred tax is made in respect of timing difference on account of higher depreciation charge available under income tax provisions. During Fiscal,2021 we provided Deferred Tax ₹ 560.03 crore as against ₹ 1,288.83 crore in Fiscal 2020. In the opinion of the management, it is probable that future economic benefits will flow to the company in the form of availability of set off against future income tax liability by recognizing MAT credit as follows: Future taxable profits will be adjusted against (a) tax holiday u/s 80-IA of Income Tax Act, 1961 for the projects commissioned upto 31st March, 2017 (b) initial depreciation on the assets to be commissioned in future and (c) regular income tax

depreciation u/s 32 of Income Tax Act, 1961 and thereafter tax amount will be set off against MAT credit to the extent of ₹ 2,158.77 crore (Previous year ₹ 1,774.60 crore). Hence, the same has been recognized as Deferred Tax Assets during the year.

12.4 Net Movement in Regulatory Deferral Account Balances-Income/ (Expenses) (Net of Tax)

Net movement in Regulatory Deferral Account Balances-Income/(Expenses) (net of tax) for Fiscal 2021 stood at ₹ 398.85 crore as against ₹ 1,683.40 crore in Fiscal 2020.

12.5 Exceptional Items

Your Company has given a consolidated one-time rebate of ₹ 1078.64 crore to DISCOMs and Power Departments of States/Union Territories for passing on to end consumers on account of COVID-19 pandemic against the billing of April,2020 and May,2020. Due to said consolidated one-time rebate, there is a reduction in the profit for the year and the same has been disclosed under “Exceptional Items” in the statement of Profit & Loss.

13.0 Profit after Tax

Your company’s Profit after Tax during Fiscal 2021 was ₹ 11,935.78 crore, an increase of 10.40% over Profit after Tax of ₹ 10,811.18 crore during Fiscal 2020.

14.0 Return on Net Worth

Your company’s Return on Net worth in Fiscal 2021 is 17.15% in comparison to 16.78% in Fiscal 2020. Return on Net worth has increased in Fiscal 2021 as compared to Fiscal 2020 on account of increase in profit.

15.0 Financial Ratios

Particulars	FY 2020-21	FY 2019-20
Debtors Turnover	8.87	7.60
Inventory Turnover	27.26	27.55
Interest Coverage Ratio	4.16	3.67
Current Ratio*	0.84	0.63
Debt Equity Ratio	67:33	69:31
Operating Profit Margin (%) #	31.01	31.11
Net Profit Margin (%)	31.69	29.88

Note:# Operating profit = Profit Before Tax (excluding Deferred assets for deferred tax liability) less Other Income.

* Current ratio was increased by 33% due to classification of loans (₹ 4,993.49 crore) given to and investment (₹ 952.18 crore) made in 5 SPVs transferred to PGINVT as Current Assets.

16.0 Other Comprehensive Income (Net of Tax)

Your company’s other comprehensive income (net of tax) during Fiscal 2021 was ₹ 25.36 crore in comparison to ₹ (104.02) crore during Fiscal 2020. The variation is mainly due to increase in valuation of investment in PTC India Limited shares and increase in provisions made for actuarial valuation.

17.0 Credit Ratings

Your Company’s financial prudence is reflected in the strong credit rating accorded by ratings agencies. For details, refer Report on Corporate Governance.

18.0 Liquidity and Capital Resources

Your company depends on both internal and external sources of liquidity to provide working capital and to fund capital requirements. As at March 31, 2021, your company had cash and cash equivalents of ₹ 4,430.05 crore as against ₹ 4,805.14 crore as at March 31,2020.

19.0 Cash Flows

(₹ in crore)

	Year ended March 31,	
	2021	2020
Net cash from operating activities	27,532.46	29,239.47
Net cash used in investment activities	(7,721.72)	(9,368.04)
Net cash used in Financing activities	(20,185.83)	(18,711.99)
Cash and cash equivalents at the end of the year	4,430.05	4,805.14

19.1 Net Cash from Operating Activities

Your company's net cash flows from operating activities are principally used to service long-term debt, for capital expenditures, for investments and for payment of dividend. The net cash from operating activities was ₹ 27,532.46 crore in Fiscal 2021 as against ₹ 29,239.47 crore during Fiscal 2020.

19.2 Net Cash used in Investment Activities

Your company's net cash used in investing activities during Fiscal 2021 was primarily reflected in expenditure on Property, Plant & Equipment and Capital Work-in-Progress (including advances for capital expenditure) of ₹ 6,389.23 crore, Loans & Advances to Subsidiaries & Joint Ventures of ₹ 2,141.35 crore, investment in Subsidiaries & Joint Ventures of ₹ 459.05 crore and receipt of interest on deposits, bonds and loans to subsidiaries & JV's of ₹ 1,100.67 crore, surcharge received of ₹ 714.15 crore and dividend received ₹ 662.78 crore. The Company's net cash used in investing activities was ₹ 7,721.72 crore during Fiscal 2021 as against ₹ 9,368.04 crore during Fiscal 2020.

19.3 Net Cash used in Financing Activities

During Fiscal 2021, your company raised ₹ 7,840.14 crore of new long term borrowings. These borrowings included principally Rupee bonds and foreign currency borrowings. The company repaid ₹ 10,954.02 crore of long term borrowings and paid interest and finance charges of ₹ 9,084.66 crore. In the Fiscal 2021, the Company paid dividend of ₹ 6,821.99 crore comprising final dividend of ₹ 2,113.56 crore for Fiscal 2020 and interim dividend of ₹ 4,708.43 crore for Fiscal 2021.

20.0 Capital Expenditure

Your company's capital expenditure is primarily for the installation of new transmission capacity and the expansion of existing capacity. Our capital expenditure during Fiscal 2021 and Fiscal 2020, was ₹ 11,150 crore and ₹ 15,313 crore, respectively which includes CAPEX for TBCB companies of ₹ 3,598 crore (Previous Year ₹ 3,635 Crore).

21.0 Non-current Assets

Your company's Non-current Assets were ₹ 2,18,976.37crore and ₹ 2,27,017.48 crore as at March 31, 2021 and March 31, 2020, respectively. Non current assets have been categorized as (i) Property, Plant & Equipment; (ii) Capital work in progress; (iii) Investment Property (iv) Intangible assets; (v) Intangible assets under development.; (vi) Investments (vii) Loans; (viii) other non-current financial assets and (ix) other non-current assets.

21.1 Property, Plant and Equipment

Property, Plant & Equipment (Net Block) increased to ₹ 1,75,392.06 crore in Fiscal 2021 from ₹ 1,68,339.02 crore in Fiscal 2020 an increase by 4.19%. Property, Plant & Equipment mainly consists of Land, Buildings, Transmission Lines, Substations, HVDC, ULDC Equipment, Furniture & Fixtures etc.

21.2 Capital work in progress

Your company's capital work-in-progress was ₹ 17,896.67 crore and ₹ 30,180.08 crore, as at March 31, 2021 and 2020, respectively, a decrease of 40.70%. The cost of materials consumed, erection charges and other expenses incurred for the implementation of projects are shown on the balance sheet as capital work-in-progress, pending capitalization of the completed project. The change in this amount is due to capitalization of a number of transmission projects and due to undertaking of new transmission projects.

21.3 Intangible assets

Intangible Assets consist of Electronic Data Processing Software, Right of Way-Afforestation Expenses, Telecom licenses and development of 1200kV Transmission System. The value of unamortized Intangible assets (Net) increased to ₹ 1,551.44 crore in Fiscal 2021 from ₹ 1,497.41 crore during Fiscal 2020, a increase by 3.61%.

21.4 Intangible assets under development

Right of way-afforestation expenses are shown on the balance sheet as Intangible assets under development. The value of Intangible assets under development was ₹ 74.86 crore and ₹ 219.55 crore as at March 31, 2021 and 2020, respectively. The change is on account of capitalization of expenditures on Transmission Projects during Fiscal 2021.

21.5 Investments

Investments have been classified into quoted and un-quoted categories. As at March 31, 2021, the quoted and un-quoted investments were ₹ 93.30 crore and ₹ 4,172.06 crore as against ₹ 46.50 crore and ₹ 3,717.16 crore, respectively as at March 31, 2020. Investments under 'Quoted' category are investments made in PTC (India) Limited computed at Fair Value. Investments Under 'Unquoted' category in Fiscal 2021 consist equity investment in joint venture and subsidiary companies mainly at cost. Major investments in Joint venture & subsidiaries as on 31.03.2021 are:

Sl. No.	Name of the Subsidiary/Joint Venture	Amount invested as on 31.03.2021 (₹ in crore)
Subsidiaries		
1	Powergrid NM Transmission Limited	485.05
2	Powergrid Khetri Transmission System Limited	161.40
3	Powergrid Mednipur Jeerat Transmission Limited	549.63
4	Powergrid Mithilanchal Transmission Limited	213.50
5	Powergrid Ajmer Phagi Transmission Limited	112.00
6	Jaypee Powergrid Limited	432.50
7	Powergrid Fategarh Transmission Limited	113.41
8	Powergrid Southern Interconnector Transmission System Limited	709.00
9	Powergrid Varanasi Transmission System Limited	168.05
Joint Ventures		
10	Powerlinks Transmission Limited	229.32
11	Torrent Power Grid Limited	23.40
12	Parbati Koldam Transmission Company Limited	70.94
13	Teestavalley Power Transmission Limited	120.12
14	North East Transmission Company Limited	106.96
15	National High Power Test Laboratory Private Limited	30.40
16	Cross Border Power Transmission Company Limited.	12.62
17	Bihar Grid Company Limited	290.30
18	Power Transmission Company Nepal Limited	6.50

21.6 Loans (Non Current)

The Loans have been classified as Loans to Related Parties & Loans to Employees. As at March 31, 2021, Loans to Related Parties and Loans to Employees were ₹ 10,163.97 crore and ₹ 310.12 crore as against ₹ 12,530.62 crore and ₹ 253.13 crore, respectively as at March 31, 2021 and March 31, 2020. The decrease in Loans from Fiscal 2020 to Fiscal 2021 was mainly due to decrease in Unsecured Loans to Subsidiaries which are executing Projects acquired by the Company through Tariff Based Competitive Bidding (TBCB) route and loans to Joint venture companies.

21.7 Other non-current financial assets

Your company's other non-current financial assets was ₹ 4,186.58 crore and ₹ 4,106.80 crore as on March 31, 2021 and 2020, respectively. Other non-current financial asset mainly consists of Recoverable from GOI fully service Bond and Lease Receivables. Company has issued GOI fully service bonds amounting to ₹ 3,487.50 crore during FY 2018-19 for raising of Extra Budgetary Recovery (EBR) for GOI scheme of Power System Development fund in terms of letter no. 7/1/2018-OM dated 21st January, 2019 of Ministry of Power, Govt. Of India (GOI) for meeting accrued liabilities for creation of Capital Assets. The repayment of principal and the interest payment on such bonds shall be met by GOI.

21.8 Other non-current assets

Your company's other non-current assets was ₹ 4,874.42 crore and ₹ 6,127.18 crore, as at March 31, 2021 and 2020, respectively, a decrease by 20.45%. Other non-current assets mainly comprise of advances for Capital Expenditure, deferred foreign currency Fluctuation Asset, advance recoverable in kind or for value to be received.

22.0 Current Assets

Your company's Current Assets were ₹ 24,749.21 crore and ₹ 18,409.12 crore as at March 31, 2021 and March 31, 2020, respectively. Current Assets have been categorized as (i) Inventories; (ii) Trade receivables; (iii) Cash & Cash Equivalents; (iv) Bank Balances other than cash and cash equivalents (v) Loans (vi) other current financial assets (vii) other current assets (viii) Assets classified as held for sale.

22.1 Inventories

Inventories are valued at lower of the cost, determined on weighted average basis, and net realizable value. The inventories were ₹ 1,362.82 crore as at March 31, 2021 as against ₹ 1,400.56 crore in fiscal 2020. Our inventories consists components, spares & other spare parts, loose tools, consumable stores and other items.

22.2 Trade Receivables

Trade Receivables consist mainly of receivables relating to transmission services, and also receivables from consultancy services and telecom services. Our Trade Receivables as on March 31, 2021 and 2020 were ₹ 3,621.34 crore and ₹ 4,867.90 crore, respectively. Trade receivables decreased by 25.61% during Fiscal 2021 as compared to Fiscal 2020. Substantially, all of our receivables are covered by letter of credit, following which we have no material debt collection problems.

22.3 Cash & Cash Equivalents

Cash and Cash Equivalents as on March 31, 2021 and 2020 were ₹ 4,430.05 crore and ₹ 4,805.14 crore, respectively. Cash & Cash Equivalents decreased by 7.81% in Fiscal 2021 as compared to Fiscal 2020 mainly on account of term deposits (with maturity less than 3 months) held in respect of consultancy clients and others.

22.4 Bank Balances other than cash & cash equivalents

Bank balances other than cash & cash equivalents as on March 31, 2021 and 2020 were ₹ 843.49 crore and ₹ 604.26 crore, respectively. Bank Balances other than cash & cash equivalents increased by 39.59% during Fiscal 2021 as compared to Fiscal 2020 mainly on account of term deposits in banks for consultancy clients & others.

22.5 Loans

Loans as on March 31, 2021 and 2020 were ₹ 5,428.83 crore and ₹ 879.41 crore, respectively. Loans during Fiscal 2021 as compared to Fiscal 2020 increased mainly on account of current maturities of Loans to Subsidiaries Companies.

22.6 Other current financial assets.

Other current financial assets as on March 31, 2021 and 2020 were ₹ 7,940.04 crore and ₹ 5,631.40 crore, respectively mainly consisting unbilled revenue. Other current financial assets increased by 41% during Fiscal 2021 as compared to Fiscal 2020 mainly on account of increase in unbilled revenue.

22.7 Other Current Assets

Our other current assets as at March 31, 2021 and 2020 were ₹ 170.46 crore and ₹ 220.45 crore respectively.

22.8 Assets Classified as Held for Sale

Your Company has monetised five (05) of its Subsidiaries, namely Powergrid Vizag Transmission Limited, Powergrid Kala Amb Transmission Limited, Powergrid Jabalpur Transmission Limited, Powergrid Warora Transmission Limited and Powergrid Parli Transmission Limited through POWERGRID Infrastructure Investment Trust ('PGInvIT/ Trust'). PGInvIT has been registered by SEBI under SEBI (Infrastructure Investment Trusts) Regulations, 2014 ('InvIT Regulations') as an Infrastructure Investment Trust vide registration no. IN/InvIT/20-21/0016 dated 07.01.2021. Your company is the Sponsor of PGInvIT and shall also act as the Project Manager to PGInvIT. IDBI Trusteeship Services Limited is the Trustee and Powergrid Unchahar Transmission Limited (PUTL), a wholly owned subsidiary of the company, has been appointed as Investment Manager to PGInvIT. The Offer Document for initial public offer has been filed by PGInvIT with the SEBI and Stock Exchanges on 22.04.2021 and units got listed on stock exchanges on 14.05.2021. The 74% shares in the above five SPVs have been transferred to PGInvIT in May, 2021 and balance 26% will be transferred in line with Transmission Service Agreement (TSA). In lieu of consideration of shareholding so transferred, 41,06,50,900 Units were allotted by PGInvIT to the company. The company retained 13,65,00,100 units being 15% of total units of PGInvIT outstanding on post issue basis. pursuant to InvIT Regulations and remaining 27,41,50,800 units were sold by way of 'Offer for Sale (OFS)'. The company received an amount of ₹ 2736.02 crore (net of STT) against the OFS. As the said investments are being sold in FY 2021-22, the investments of ₹ 1213.04 crore (current & non current) in the above mentioned 5 subsidiaries have been classified as " Assets classified as held for sale" as on 31.03.2021.

23.0 Indebtedness.

We rely on both Rupee and foreign currency denominated borrowings. A significant part of our external funding has been through long-term foreign currency loans from multilateral agencies such as the World Bank and the Asian Development Bank, with our performance under such loans guaranteed by Gol. Following table sets forth, by currency, our outstanding debt and its maturity profile (currency conversions are as of 31st March, 2021):

(₹ in crore)

Loan Name	2021-22	2022-23	2023-24	2024-25	Beyond 2024-25	Total
Domestic Bonds (1)	8,223.73	6,090.23	5,391.48	7,851.35	43,536.61	71,093.40
Domestic Loans (2)	954.00	2,004.00	2,517.48	2,780.97	17,948.20	26,204.65
Foreign Loans						
US\$	2,306.73	6,052.19	2,400.83	2,305.62	22,052.35	35,117.72
EUR	460.39	626.63	626.63	623.71	3,448.69	5,786.05
SEK	214.33	214.33	214.33	214.33	638.01	1,495.33
JPY	12.23	12.23	12.23	12.23	1,505.41	1,554.33
TOTAL (3)	2,993.68	6,905.38	3,254.02	3,155.89	27,644.46	43,953.43
GRAND TOTAL (1+2+3)	12,171.41	14,999.61	11,162.98	13,788.21	89,129.27	1,41,251.48

23.1 Long-term borrowings

Your company's long-term borrowings (excluding current maturities) as at March 31, 2021 and 2020 were ₹ 1,29,080.07 crore and ₹ 1,35,421.11 crore, respectively. Long-term borrowings include amounts raised from our private placement of bonds, term loans from banks and financial institutions. Due to the repayment of loans during last year our borrowings have decreased by 4.68% in comparison of previous year.

23.2 Secured Loans

Our secured loans (excluding current maturities of long term loans) as at March 31, 2021 and 2020 were ₹ 91,689.02 crore and ₹ 1,02,978.74 crore, respectively. Most of these loans have been secured by floating charges on the moveable and immovable properties of the Company. The following table presents the secured debt as at 31st March, 2021:

	Amount (₹ in crore)	% of total secured debt
Bonds denominated in Rupees	51,550.85	56.22
Term Loans and Other Loans From Banks and Financial Institutions:		
Denominated in Foreign Currency	30,862.17	33.66
Denominated in Rupees	9,276.00	10.12
Total	91,689.02	100

23.3 Unsecured Loans

Our unsecured loans (excluding current maturities) as at March 31, 2021 and 2020 were ₹ 37,391.05 and ₹ 32,442.37 crore respectively, which consist of domestic bonds, foreign currency bonds, loans from foreign financial institutions/ Banks such as the Natixis (Formerly Credit National) in France, Japan International Cooperation Agency (Formerly Japan Bank for International Co-operation) in Japan, Skandinaviska Enskilda Banken AB (publ.) in Sweden and AB Svensk Exportkredit, Sweden.

The following table presents our unsecured debt as at March 31, 2021:

	Amount (₹ in crore)	% of total unsecured debt
Bonds denominated in Foreign Currency & Domestic Bonds	11,318.83	30.27
Term Loans, From Banks and Foreign Currency Loans:		
Denominated in Foreign Currency	10097.57	27.01
Denominated in Rupees	15974.65	42.72
Total	37391.05	100

24.0 Advance Against Depreciation (AAD)

Advance against depreciation (AAD) was a component of tariff that was permitted to be charged under CERC regulations for the Block 2004-09, to cover shortfall in respect of depreciation in a year on assets, for repayment of debts. AAD was done away with in the tariff block 2009-2014 and depreciation rate were reworked. Due to change in these tariff norms and the depreciation rates w.e.f. 1.04.2009, the outstanding AAD has been taken to transmission income after 12 years from the date of commercial operation to the extent the depreciation charged in respect of transmission system is more than the depreciation recovery under tariff. As on 31st March, 2021, AAD has decreased by 13.67% from ₹ 1,170.80 crore during Fiscal 2020 to ₹ 1,010.75 crore.

25.0 Current liabilities

Your company's current liabilities as at 31st March, 2021 were ₹ 29,582.95 crore (previous year ₹ 29,089.61 crore). The current liabilities include (i) Borrowings, (ii) Trade payables (iii) other current financial liabilities (iv) other current liabilities; (v) Provisions and (vi) Current Tax liabilities.

25.1 Borrowings

Your company's Short-term Borrowings are from Banks and through issue of Commercial Paper. These Borrowings as at 31st March, 2021 and 2020 were ₹ 1,800 crore and ₹ 3,000 crore respectively.

25.2 Trade payables

Your company's Trade payables as at 31st March, 2021 and 2020 were ₹ 186.30 crore and ₹ 225.72 crore respectively. Trade payables at March 31,2021 were 17.46% lower as compared to March 31,2020.

25.3 Other Current Financial Liabilities

Your company's other current financial liabilities as at 31st March, 2021 and 2020 were ₹ 22,463.57 crore and ₹ 20,831.62 crore respectively. Other current financial liabilities mainly include current maturities of long term borrowings through secured & unsecured Bonds, foreign currency loans, dues for capital expenditure, deposits/ retention money from contractors and others etc. Other current financial liabilities at March 31, 2021 were 7.83% higher as compared to March 31, 2020.

25.4 Other Current liabilities

Your Company's other current liabilities as at 31st March, 2021 and 2020 were ₹ 3,871.69 crore and ₹ 4,267.54 crore respectively. Other current liabilities at March 31,2021 were 9.28% lower as compared to March 31,2020 mainly on account of advances from customers.

25.5 Provisions

Your Company's provisions for Employee Benefits and others as on 31st March,2021 and 2020 stood at ₹ 835.88 crore and ₹ 741.95 crore respectively.

26.0 BUSINESS AND FINANCIAL REVIEW OF JOINT VENTURE COMPANIES and SUBSIDIARIES for FY 2020-21:

26.1. JOINT VENTURE COMPANIES:

A. Powerlinks Transmission Limited (POWERLINKS):

POWERGRID and Tata Power Company Limited are the Joint Venture Partners in this Joint Venture Company and hold 49% and 51% equity, respectively. Your Company was incorporated to undertake the implementation of Transmission Lines associated with Tala HEP, East-North interconnector and Northern Region Transmission System from Siliguri in West Bengal via Bihar to Uttar Pradesh and was the first public - private partnership in Power Transmission.

As on 31.03.2021, POWERLINKS has paid-up capital of ₹ 468.00 crore. POWERGRID's share in the paid-up capital is ₹ 229.32 crore.

POWERLINKS had progressively commissioned the project by August, 2006. POWERGRID have received ₹ 45.86 crore dividend from POWERLINKS for Fiscal 21.

Financial Highlights of the Company:

(₹ in crore)

Particulars	Fiscal 2021	Fiscal 2020
POWERGRID's investment in Equity	229.32	229.32
Gross Income	127.32	99.27
Profit after Tax	102.01	121.14
Earnings per Share* (₹)	2.18	2.59

*Face value per Share is ₹ 10 each.

B. Torrent Powergrid Limited (TPL):

POWERGRID and Torrent Power Limited are the Joint Venture Partners in this Joint Venture Company and hold 26% and 74% equity, respectively. The Company was incorporated to undertake the implementation of transmission system associated with 1100MW Gas Based project (Sugen) Generation Station of Torrent Power Ltd. at Akhakhol in Surat District of Gujarat.

As on 31.03.2021, TPL has paid-up capital of ₹ 90 crore. POWERGRID's share in the paid-up capital is ₹ 23.40 crore.

The project was progressively commissioned in March, 2011. POWERGRID have received ₹ 4.21 crore dividend from TPL for Fiscal 21.

Financial Highlights of the Company:

(₹ in crore)

Particulars	Fiscal 2021	Fiscal 2020
POWERGRID's investment in Equity	23.40	23.40
Gross Income	44.24	45.90
Profit after Tax	19.31	18.48
Earnings per Share* (₹)	2.15	2.05

*Face value per Share is ₹ 10/- each.

C. North East Transmission Company Ltd.(NETC):

POWERGRID entered into a Joint Venture Agreement with ONGC Tripura Power Project Company Ltd. (OTPC), Government of Tripura, Manipur, Mizoram, Assam Electricity Grid Corporation Ltd, Meghalaya and Nagaland for establishment of Transmission Line of 400kV D/C Palatana- Silchar- Bongaigoan Transmission Project associated with 726.6 MW Palatana Gas based Power Project in the state of Tripura.

As on 31.03.2021, NETC has paid-up share capital of ₹ 411.40 crore. POWERGRID's share in the paid-up capital is ₹ 106.96 crore.

The project was progressively commissioned in February, 2015. POWERGRID have received ₹ 16.05 crore dividend from NETCL for Fiscal 2021.

Financial Highlights of the Company

(₹ in crore)

Particulars	Fiscal 2021	Fiscal 2020
POWERGRID's investment in Equity	106.96	106.96
Gross Income	323.96	325.82
Profit after Tax	75.24	59.10
Earnings per Share* (₹)	1.83	1.44

*Face value per Share is ₹ 10/- each.

D. Parbati Koldam Transmission Company Limited (PKTCL)

POWERGRID and India Grid Trust (IGT) are the Joint Venture Partners in this Joint Venture Company and hold 26% and 74% equity, respectively. The Company was incorporated to undertake the implementation of transmission lines associated with Parbati-II (800 MW) HEP and Koldam (800 MW) HEP.

As on 31.03.2021, PKTCL has paid-up capital of ₹ 272.84 crore. POWERGRID's share in the paid-up capital is ₹ 70.94 crore.

The Project commissioned progressively in Nov'2015. POWERGRID have received ₹ 35.11 crore dividend from PKTCL for Fiscal 2021.

Financial Highlights of the Company:

(₹ in crore)

Particulars	Fiscal 2021	Fiscal 2020
POWERGRID's investment in Equity	70.94	70.94
Gross Income	176.12	209.03
Profit after Tax	60.97	84.73
Earnings per Share* (₹)	2.23	3.11

*Face value per Share is ₹ 10/- each.

E. Teestavalley Power Transmission Limited (TPTL)

POWERGRID and Teesta Urja Ltd. are the Joint Venture Partners in this Joint Venture Company and hold 30.92% and 69.08% equity, respectively. The Company was incorporated to undertake the implementation of transmission lines associated with 1200 MW Teesta-III Hydro Electric Power Project to Kishanganj sub-station.

As on 31.03.2021, TPTL has Paid-Up Capital of ₹ 388.45 crore. POWERGRID's share in the paid-up capital was ₹ 120.12 Crore. The Project commissioned progressively in Feb'2019.

Financial Highlights of the Company:

(₹ in crore)

Particulars	Fiscal 2021	Fiscal 2020
POWERGRID's investment in Equity	120.12	120.12
Gross Income	300.26	278.33
Profit after Tax	46.05	43.38
Earnings per Share* (₹)	1.19	1.13

*Face value per Share is ₹ 10/- each.

F. National High Power Test Laboratory Private Limited (NHPTL):

NHPTL is a joint venture Company of NTPC, NHPC, POWERGRID, DVC & CPRI with equal equity participation of 20% each. The main aim of the NHPTL is to establish an online high power short circuit test facility in the country. This Facility is being established for the first time in the country at Bina (M.P.) to provide a full range of short circuit testing for the electrical equipment in conformance to Indian and International Standards.



As on 31.03.2021, NHPTL has paid up share capital of ₹ 152 crore. POWERGRID’s share in the paid-up capital was ₹ 30.40 crore.

High Voltage Transformer (HVTR) Section of Laboratory under Phase-I put under commercial operation with effect from 1st July, 17. The HVTR lab is capable of Short Circuit (SC) testing of power transformers for all possible ratings with voltage class starting from 132 kV to 765 kV. Medium Voltage Transformer (MVTR) Section is under implementation. The project has no operating profit yet.

G. Bihar Grid Company Limited (BGCL):

POWERGRID entered into a Shareholders’ Agreement on 29.12.2012 with Bihar State Power (Holding) Company Limited {BSP(H)CL} for implementation of Intra-State Transmission System in the State of Bihar on 50:50 equity participation basis.

As on 31.03.2021, BGCL has the Paid-up Share Capital of ₹ 580.59 Crore, POWERGRID’s share in the paid-up capital was ₹ 290.30 Crore.

The Company is implementing Transmission System Strengthening Schemes in Bihar under Phase-IV, Part-I worth ₹ 2024 crore. The major components of Part-I Projects are under commercial operation. Further, works Phase-IV, Part-II worth ₹ 1,688 crore and Supplementary works worth ₹ 111 crore. are under final stage of implementation.

Financial Highlights of the Company:

(₹ in crore)

Particulars	Fiscal 2021	Fiscal 2020
POWERGRID’s investment in Equity	290.30	250.80
Gross Income	502.08	227.90
Profit after Tax	201.67	43.91
Earnings per Share* (₹)	3.47	0.88

*Face value per Share is ₹ 10/- each.

H. RINL POWERGRID TLT Private Limited (RPTPL)

POWERGRID and RINL formed a joint venture Company, “RINL POWERGRID TLT Private Limited (RPTPL)”, on 50:50 equity participation basis, for setting up a Transmission Line Tower (TLT) manufacturing plant at Visakhapatnam with a view to exploit the emerging opportunity in transmission line tower manufacturing business. As on 31.03.2021, the JV Company has paid up share capital of ₹ 8.00 crore. However, keeping in view the business scenario of tower manufacturing, the Board of Directors of POWERGRID accorded In-principle approval for closure of the Company. RINL is seeking approval of Ministry of Steel for Closure of RPTPL.

I. Cross Border Power Transmission Company Limited (CPTCL):

POWERGRID entered into Shareholders’ Agreement on 9th July, 2012 with IL&FS Energy Development Company Limited (IEDCL), SJVN Limited (SJVN) & Nepal Electricity Authority (NEA) of Nepal and formed a JV Company under the name “Cross Border Power Transmission Company Ltd” (CPTC) incorporated in India for implementation of Indian portion viz. Muzaffarpur - Sursand section (India Portion) of 400 kV D/C Muzaffarpur - Dhalkebar Indo-Nepal Cross Border transmission line. The Shareholding of POWERGRID, SJVN, IEDCL and NEA in the said JV Company is 26%, 26%, 38% and 10% respectively. The Audited cost of the India Portion is INR 241.27 crore and the Project has been implemented with debt: equity as 80:20. The Audited cost for extension of 400 kV D/C Muzaffarpur – Sursand Line is INR 9.93 crore as on 31st March 2021 which is yet to be capitalized.

As on 31.03.2021, CPTC has paid-up capital of INR 48.50 crore. At present, POWERGRID equity is INR 12.61 crore. The India Portion is under commercial operation w.e.f. 19th February, 2016.

POWERGRID has received ₹ 2.65 crore dividend from CPTCL for Fiscal 21. The Board of Directors of the Company has recommended final dividend at 11% for FY 2020-21 which would be declared in AGM after approval of shareholders. The Company will convene its AGM in the month of Sept. 2021.

J. Power Transmission Company Nepal Limited (PTCN):

POWERGRID entered into a “Joint Venture cum Share Purchase Agreement” on 5th April, 2014 with Nepal Electricity Authority(NEA), Hydroelectricity Investment & Development Company Ltd (HIDCL) of Nepal and IL&FS Energy Development Company Ltd (IEDCL), India and formed a JV Company under the Name “Power Transmission Company Nepal Ltd” (PTCN) incorporated in Nepal for implementation of Dhalkebar - Bhattamod 400 kV Transmission Line (Nepal Portion of 400 kV D/C Dhalkebar - Muzaffarpur Indo-Nepal Cross Border transmission line.) The Shareholding of NEA, POWERGRID, HIDCL and IEDCL in the said JV Company is 50%, 26%, 14% and 10% respectively. The Audited final executed Project cost of the Nepal Portion is NPR. 154.57 crore and the project has been implemented on 70:30 debt:equity ratio.

As on 31.03.2021, PTCN has Authorized, issued & paid-up share capital of NPR 45 crore. At present, POWERGRID equity is NPR 11.70 crore including 1,30,000 equity shares of NPR 100/- each of Bonus Shares. The line is under commercial operation w.e.f. 19th February, 2016.

POWERGRID has received ₹ 1.32 crore dividend from PTCN for Fiscal, 21. The Dhalkebar - Muzaffarpur Indo-Nepal Cross Border Transmission line is being used for Transmission of power between India & Nepal.

K. Energy Efficiency Services Limited (EESL):

POWERGRID entered into a Joint Venture Agreement with NTPC Ltd., Power Finance Corporation Ltd. and Rural Electrification Corporation Ltd. The JV Company viz. Energy Efficiency Services Limited is to promote measures of Energy efficiency, Energy Conservation and Climate Change and is carrying out business related to energy audit of Govt. buildings, consultancy assignments etc. in India and globally.

As on 31.03.2021, EESL has Paid-up Share Capital of ₹ 983.33 crore. POWERGRID’s share in the paid-up capital was ₹ 56.12 crore (5.71%).

Note: For the purpose of consolidation of Accounts, EESL has not been considered as a Joint Venture Company.

L. Kalinga Bidyut Prasaran Nigam Private Limited (KBPNL):

POWERGRID has entered into a Shareholders’ Agreement on 04.01.2013 with Odisha Power Transmission Corporation Limited (OPTCL) for implementation of Intra State Transmission System in the State of Odisha on the basis of 50:50 equity participation. No business has been undertaken by this Company. The shareholders of KBPNL in their Extraordinary General meeting held on 02.01.2020, approved striking off the name of the company pursuant to Section 248(2) of the Companies Act, 2013. The name of KBPNL has been struck off in the Register of Companies and is dissolved w.e.f. 26.10.2020.

SUBSIDIARY COMPANIES:

A. POWERGRID NM TRANSMISSION LIMITED

POWERGRID NM Transmission Company Limited (PNMTL) was acquired by POWERGRID on March 29, 2012 under Tariff Based Competitive Bidding for establishing Transmission System associated with IPPs of Nagapattinam / Cuddalore Area (Package A) from PFC Consulting Ltd (the Bid Process Co-coordinator). The Transmission System comprising 765kV D/C and 765kV S/C traverses the states of Tamil Nadu and Karnataka. PNMTL was granted transmission license by CERC in June, 2013.

As on 31.03.2021, PNMTL has an Authorized and Paid-up Share Capital of ₹ 496.25 crore and ₹ 485.05 crore respectively. The project elements have been progressively commissioned and the entire project has been commissioned on 26.01.2019.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	124.95	123.52
Profit after Tax	(37.05)	(29.48)

B. POWERGRID VIZAG TRANSMISSION LIMITED

POWERGRID VIZAG Transmission Company Limited (PVTL) was acquired by POWERGRID on August 30, 2013 under Tariff Based Competitive Bidding for establishing Transmission System for 'System Strengthening in Southern Region for import of power from Eastern Region' from REC Transmission Projects Company Limited (the Bid process Coordinator). The transmission system comprising Srikakulam-Vemagiri 765kV D/C line & Khammam -Nagarjunasar 400kV D/C Line traverses through the states of Andhra Pradesh and Telengana. PVTL was granted transmission license by CERC in January, 2014.

As on 31.03.2021, PVTL has an Authorized and Paid-up Share Capital of ₹ 220 crore & ₹ 209.73 crore respectively. The project has been commissioned on 1st February, 2017. PVTL has paid first interim dividend of ₹ 25.17 crore in November, 2020 and second interim dividend of ₹ 36.70 Crore in February, 2021 for FY 2020-21.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	310.55	315.66
Profit after Tax	109.20	151.75

C. POWERGRID UNCHAHAR TRANSMISSION LIMITED

POWERGRID Unchahar Transmission System Limited (PUTL) was acquired by POWERGRID on March 24, 2014 under Tariff Based Competitive bidding from REC Transmission Projects Company Limited (the Bid Process Co-ordinator) for establishment of Transmission System for ATS of Unchahar TPS. The transmission system comprising 400 kV D/C traverses the state of Uttar Pradesh. The Company was granted transmission license by CERC in July, 2014. The Project has been commissioned on 23.09.2016.

Power Grid Corporation of India Limited (holding Company) has appointed POWERGRID Unchahar Transmission Limited (PUTL) as the Investment Manager of POWERGRID Infrastructure Investment Trust, in accordance with the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, as amended (the "InvIT Regulations"). Accordingly, PUTL has amended its Main Objects Clause of the Memorandum of Association to enable to undertake investment management activities in relation to the Trust.

As on 31.03.2021, PUTL has an Authorized Share Capital of ₹ 14 crore and Paid-up Share Capital of ₹ 12.96 crore.

PUTL has paid first interim dividend of ₹ 2.59 crore in November, 2020 and second interim dividend of ₹ 3.89 Crore in March, 2021 for FY 2020-21.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	21.79	22.10
Profit after Tax	4.94	9.64

D. POWERGRID KALA AMB TRANSMISSION LIMITED

POWERGRID Kala Amb Transmission Limited (PKATL) was acquired by POWERGRID on May 12, 2014 under Tariff Based Competitive bidding from REC Transmission Projects Company Limited (the Bid Process Co-ordinator) for establishment of Transmission System for Northern Region system Strengthening Scheme, NRSS-XXXI (Part-A). The Transmission System comprising 400/220 kV GIS substation, 400 kV D/C LILLO and Series Compensation is to traverse the state of Himachal Pradesh. The Company was granted transmission license by CERC in September, 2014.

As on 31.03.2021, PKATL has an Authorized and Paid-up Share Capital of ₹ 61 crore each. The project has been commissioned on 12.07.2017.

PKATL has paid interim dividend of ₹ 0.80 per equity share amounting to ₹ 4.88 Crore in December 2020 and second interim dividend of ₹ 0.70 per equity share amounting to ₹ 4.27 Crore in January 2021. Thus, the aggregate interim dividend payout for the FY 2020-21 amounts to ₹ 9.15 crore.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	72.94	73.41
Profit after Tax	29.48	23.37

E. POWERGRID JABALPUR TRANSMISSION LIMITED

POWERGRID Jabalpur Transmission Limited (PJTL) was acquired by POWERGRID on February 26, 2015 under Tariff Based Competitive bidding from REC Transmission Projects Company Limited (the Bid Process Co-ordinator) for establishment of Transmission System Strengthening associated with Vindhyachal-V. The transmission system comprising 765kV D/C transmission line traverses the State of Madhya Pradesh. The Company was granted transmission license by CERC in June, 2015.

As on 31.03.2021, PJTL has Authorized Share Capital of ₹ 300 crore and Paid-up Share Capital of ₹ 226.91 crore. The project had been completed and declared for commercial operation w.e.f. 01.01.2019.

PJTL has paid interim dividend of ₹ 1.50 per equity share amounting to ₹ 33.44 Crore in November 2020 and second interim dividend of ₹ 1.40 per equity share amounting to ₹ 31.76 crore in January 2021. Thus, the aggregate interim dividend payout for the FY 2020-21 amounts to ₹ 65.20 crore.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	255.20	252.56
Profit after Tax	89.70	48.39

F. POWERGRID WARORA TRANSMISSION LIMITED

POWERGRID Warora Transmission Limited (PWTL) was acquired by POWERGRID on April 24, 2015 under Tariff Based Competitive bidding from REC Transmission Projects Company Limited (the Bid Process Co-ordinator) for establishment of Transmission System Associated with Gadawara STPS (2 x 800 MW) of NTPC (Part-A). The transmission system traverses through the States of Maharashtra and Madhya Pradesh and comprises 765kV D/C, 400kV D/C transmission lines and establishment of 2X1500 MVA 765/400 kV new substation in Warora. The Company was granted transmission license by CERC in August, 2015.

As on 31.03.2021, PWTL has an Authorized Share Capital of ₹ 425 crore and Paid-up Share Capital of ₹ 393.30 crore.

The project elements have been progressively commissioned and the entire project has been commissioned on 10.07.2018.

PWTL has paid interim dividend of ₹ 1.10 per equity share amounting to ₹ 43.26 crore in November 2020 and second interim dividend of ₹ 0.84 per equity share amounting to ₹ 33.04 crore in January 2021. Thus, the aggregate interim dividend payout for the FY 2020-21 amounts to ₹ 76.30 crore.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	402.70	361.99
Profit after Tax	140.28	76.09

G. POWERGRID PARLI TRANSMISSION LIMITED

POWERGRID Parli Transmission Limited (PPTL) was acquired by POWERGRID on April 24, 2015 under Tariff Based Competitive bidding from REC Transmission Projects Company Limited (the Bid Process Co-ordinator) for establishment of Transmission System Associated with Gadawara STPS (2x800 MW) of NTPC (Part-B). The transmission system traverses through the State of Maharashtra and comprises 765kV D/C, 400kV D/C transmission lines and establishment of 2X1500 MVA 765/400 kV new substation in Parli. The Company was granted transmission license by CERC in July, 2015.



As on 31.03.2021, PPTL has an Authorized Share Capital of ₹ 350 crore and Paid-up Share Capital of ₹ 322.10 crore.

The project elements have been progressively commissioned and the entire project has been commissioned on 04.06.2018.

PPTL has paid interim dividend of ₹ 1.30 per equity share amounting to ₹ 41.87 crore in November 2020 and second interim dividend of ₹ 1.18 per equity share amounting to ₹ 38.01 crore in January 2021. Thus, the aggregate interim dividend payout for the FY 2020-21 amounts to ₹ 79.88 crore.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	360.40	330.48
Profit after Tax	136.54	79.22

H. POWERGRID SOUTHERN INTERCONNECTOR TRANSMISSION SYSTEM LIMITED

POWERGRID Southern Interconnector Transmission System Limited (PSITSL) was acquired by POWERGRID on December 4, 2015 under Tariff based Competitive bidding from REC Transmission Projects Company Limited (the Bid Process Co-ordinator) for “Strengthening of Transmission System Beyond Vemagiri” Project on build, own operate and maintain (BOOM) basis. The transmission project comprising of 765 kV & 400 kV, D/C transmission lines is to traverse the states of Andhra Pradesh, Telangana & Karnataka and include establishment of one 765/400 kV Substation as well as 400kV bay extension at two existing sub-stations in the state of Andhra Pradesh. The Company was granted transmission license by CERC in March, 2016.

As on 31.03.2021, PSITSL has an Authorized Share Capital of ₹ 731 crore and Paid-up Share Capital of ₹ 709.004 crore. PSITSL, comprising elements viz. Vemagiri-II – Chilakaluripeta 765kV D/C line, Chilakaluripeta – Cuddapah 765kV D/C line, Chilakaluripeta – Narsaraopeta (Sattenapalli) 400kV (quad) D/C line, Cuddapah – Madhugiri 400kV (quad) D/C line, Srikaukulam Pooling Station – Garividi 400 kV (Quad) D/C line and 765/400 kV substation at Chilakaluripeta on Build, Own, Operate and Maintain (BOOM) basis, has been successfully commissioned progressively on 17.01.2020. The Company has recommended Final Dividend of ₹ 0.40 per fully paid-up Equity Share for FY 2020-21.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	470.82	187.08
Profit after Tax	108.68	8.68

I. POWERGRID MEDINIPUR – JEERAT TRANSMISSION LIMITED

POWERGRID Medinipur-Jeerat Transmission Limited (PMJTL) (was acquired by POWERGRID on March 28, 2017 under Tariff based competitive bidding from PFC Consulting Limited (the Bid Process Co-ordinator) for Transmission System associated with “765kV Strengthening in Eastern Region (ERSS-XVIII). The Transmission System includes establishment of 765kV and 400kV Transmission lines which is to traverse the states of West Bengal and Jharkhand including establishment of two new 765/400kV Substations in West Bengal. The Company was granted transmission license by CERC in June, 2017.

As on 31.03.2021, PMJTL has an Authorized Share Capital of ₹ 600.00 crore and Paid-up Share Capital of ₹ 549.63 crore. The Project is partially commissioned on 09.02.2021 and partially under implementation. The Company has recommended Final Dividend of ₹ 0.30 per fully paid-up Equity Share for FY 2020-21.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	45.72	-
Profit after Tax	19.15	-

J. POWERGRID MITHILANCHAL TRANSMISSION LIMITED

POWERGRID Mithilanchal Transmission Limited (PMTL), formerly known as ERSS XXI Transmission Limited, was acquired by POWERGRID on January 12, 2018 under Tariff based competitive bidding from REC Transmission Projects Company Limited (the Bid Process Coordinator) for Transmission System associated with “Establish Transmission System for Eastern Region Strengthening Scheme- XXI (ERSS-XXI)”. The Transmission System includes establishment of 400kV Transmission lines in the state of Bihar including establishment of three new 400/220/132 kV Substations in Bihar. The Company was granted transmission license by CERC in April, 2018.

As on 31.03.2021, PMTL has an Authorized and Paid-up Share Capital of ₹ 230 crore and ₹ 213.50 crore. The Project is partially commissioned in March, 2021 and partially under implementation.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	2.35	-
Profit after Tax	0.95	-

K. POWERGRID VARANASI TRANSMISSION SYSTEM LIMITED

POWERGRID Varanasi Transmission System Limited (PVTSL), formerly known as WR-NR Power Transmission Limited was acquired by POWERGRID on March 27, 2018 under Tariff Based Competitive Bidding from REC Transmission Projects Company Limited (the Bid Process Co-ordinator) for establishing Transmission System for new Western Region – Northern Region 765kV Inter Regional Corridor. The Transmission System includes establishment of a 765kV D/C Transmission Line from Vindhyachal pooling station to Varanasi and traverses the states of Madhya Pradesh and Uttar Pradesh. The Company was granted transmission license by CERC in August, 2018.

As on 31.03.2021, PVTSL has Authorized and Paid-up Share Capital of ₹ 198.90 crore and ₹ 168.05 crore. The Project is under implementation.

L. POWERGRID JAWAHARPUR FIROZABAD TRANSMISSION LIMITED

POWERGRID Jawaharpur Firozabad Transmission Limited (PJFTL) (formerly known as Jawaharpur Firozabad Transmission Limited) was acquired by POWERGRID on December 21, 2018 under Tariff based competitive bidding from REC Transmission Projects Company Limited (the Bid Process Coordinator) for establishing Transmission System for Evacuation of Power from 2 X 660 MV Jawaharpur Thermal Power Project and Construction of 400 kV Substation at Firozabad along with associated Transmission Lines and is an Intra State Transmission Project of Uttar Pradesh. The Company was granted transmission license by UPERC on 05.07.2019. The Project is partially commissioned in March, 2021 and partially under implementation.

As on 31.03.2021, PJFTL has an Authorized and Paid-up Share Capital of ₹ 93.70 crore and ₹ 77.20 crore each. The Project is under implementation.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	3.57	-
Profit after Tax	1.05	-

M. POWERGRID KHETRI TRANSMISSION SYSTEM LIMITED

POWERGRID Khetri Transmission System Limited (PKTSL), formerly Khetri Transco Limited was acquired by POWERGRID on August 29, 2019 under Tariff based competitive bidding from REC Transmission Project Company Limited (the Bid Process Coordinator) to establish Transmission system associated with LTA application from Rajasthan SEZ (Part -C) on Build, Own, Operate and maintain (BOOM) basis.

As on 31.03.2021, PKTSL has an Authorized and Paid-up Share Capital of ₹ 209.00 crore and ₹ 161.40 crore respectively. The project is under implementation. The Company was granted transmission license by CERC on 19.12.2019.

N. POWERGRID BHIND GUNA TRANSMISSION LIMITED

POWERGRID Bhind Guna Transmission Limited (PBGTL), formerly Bhind Guna Transmission Limited was acquired by POWERGRID on September 11, 2019 under Tariff based competitive bidding from REC Transmission Project Company Limited (the Bid Process Coordinator) to establish transmission system for Intra-State Transmission Work associated with construction of 400 kV Substation near Guna (Distt.-Guna) & Intra-State Transmission Work associated with construction of 220 kV S/s near Bhind (Distt.-Bhind, Madhya Pradesh) on Build, Own, Operate and maintain (BOOM) basis.

As on 31.03.2021, PBGTL has an Authorized and Paid-up Share Capital of ₹ 70.00 crore and ₹ 50.05 crore each. The Company was granted transmission license in January 2021 by MPERC. The project is under implementation

O. POWERGRID AJMER PHAGI TRANSMISSION LIMITED

POWERGRID Ajmer Phagi Transmission Limited (PAPTL) was acquired by POWERGRID on October 03, 2019 under Tariff based competitive bidding from REC Transmission Project Company Limited (the Bid Process Coordinator) to establish transmission system for Construction of Ajmer (PG)-Phagi 765 kV D/C line along with associated bays for Rajasthan SEZ. The Company was granted transmission license by CERC on 04.03.2020.

As on 31.03.2021, PAPTL has an Authorized and Paid-up Share Capital of ₹ 125 crore and ₹ 112 crore respectively. The project is commissioned on 06.05.2021.

P. POWERGRID FATEHGARH TRANSMISSION LIMITED

POWERGRID Fatehgarh Transmission Limited (PFTL) was acquired by POWERGRID on October 14, 2019 under Tariff based competitive bidding from PFC Consulting Limited (the Bid Process Coordinator) to establish transmission system for Ultra Mega Solar Park in Fatehgarh, Distt. Jaisalmer Rajasthan. The Company was granted transmission license by CERC on 04.03.2020.

As on 31.03.2021, PFTL has an Authorized and Paid-up Share Capital of ₹ 141.00 crore and ₹ 113.41 crore respectively. The project is under implementation.

Q. POWERGRID BHUJ TRANSMISSION LIMITED

POWERGRID Bhuj Transmission Limited (PBTL) was acquired by POWERGRID on October 16, 2019 under Tariff based competitive bidding from PFC Consulting Limited (the Bid Process Coordinator) to establish transmission system for providing connectivity to RE projects at Bhuj-II (2000MW) in Gujarat. The Company was granted transmission license by CERC on 03.03.2020.

As on 31.03.2021, PBTL has an Authorized and Paid-up Share Capital of ₹ 180.00 crore and ₹ 97.71 crore respectively. The project is under implementation.

R. POWERGRID RAMPUR SAMBHAL TRANSMISSION LIMITED

POWERGRID Rampur Sambhal Transmission Limited (PRSTL) formerly Rampur Sambhal Transco Limited was acquired by POWERGRID on December 12, 2019 under Tariff based competitive bidding from REC Transmission Project Company Limited (the Bid Process Coordinator) to establish transmission System for construction of 765/400/220kV GIS Substation at Rampur and 400/220/132kV GIS Substation at Sambhal with associated Transmission Lines.

As on 31.03.2021, PRSTL has an Authorized and Paid-up Share Capital of ₹ 85.00 crore and ₹ 21.52 crore respectively. The Company was granted transmission license by UPERC on September 2020. The project is under implementation

S. POWERGRID MEERUT SIMBHAVALI TRANSMISSION LIMITED

POWERGRID Meerut Simbhalvali Transmission Limited (PMSTL) was acquired by POWERGRID on December 19, 2019 under Tariff based competitive bidding from PFC Consulting Limited (the Bid Process Coordinator) to establish transmission system for Construction of 765/400/220 kV GIS Substation, Meerut with associated lines and 400/220/132 kV GIS Substation, Simbhaoli with associated Transmission lines.

As on 31.03.2021, PMSTL has an Authorized and Paid-up Share Capital of ₹ 110.01 crore and ₹ 32.01 crore each. The Company was granted transmission license by UPERC on September 2020. The project is under implementation.

T. POWERGRID RAMGARH TRANSMISSION LIMITED

POWERGRID Ramgarh Transmission Limited (PRTL), formerly Ramgarh New Transmission Limited was acquired by POWERGRID on March 09, 2021 under Tariff based competitive bidding from REC Power Distribution Company Limited (the Bid Process Coordinator) to establish Transmission System for Transmission System Strengthening Scheme for Evacuation of Power from Solar Energy Zones in Rajasthan (8.1 GW) under Phase-II Part-A on Build, Own, Operate and maintain (BOOM) basis.

As on 31.03.2021, Company has an Authorized and Paid-up Share Capital of ₹ 0.05 crore. The project is under implementation. The Company has filed petition with CERC for grant of transmission license.

U. BIKANER-II BHIWADI TRANSCO LIMITED

Bikaner-II Bhiwadi Transco Limited (BBTL) was acquired by POWERGRID on March 25, 2021 under Tariff based competitive bidding from PFC Consulting Limited (the Bid Process Coordinator) to establish Transmission System for Transmission System Strengthening Scheme for Evacuation of Power from Solar Energy Zones in Rajasthan (8.1 GW) under Phase-II Part-F on Build, Own, Operate and maintain (BOOM) basis.

As on 31.03.2021, Company has an Authorized and Paid-up Share Capital of ₹ 0.01 core. The project is under implementation. The Company has filed petition with CERC for grant of transmission license.

V. POWERGRID VEMAGIRI TRANSMISSION LIMITED

POWERGRID Vemagiri Transmission Limited was acquired by POWERGRID on April 18, 2012 under Tariff Based Competitive bidding for establishing Transmission system associated with IPPs of Vemagiri Area (Package A) from REC Transmission Projects Company Limited (the Bid Process Co-ordinator). The transmission system comprising 765kV D/C lines was to traverse the state of Andhra Pradesh and Telangana.

As on 31.03.2021, POWERGRID Vemagiri Transmission Limited has an Authorized Share Capital and Paid-up Share Capital of ₹ 0.05 crore each.

CERC vide Order dated 06.04.2015 stated that Vemagiri-Khammam-Hyderabad 765 kV D/C lines under the project is neither required as an evacuation line nor as a system strengthening line, no useful purpose will be served by adopting the transmission charges and granting license to the petitioner for the said transmission line and has withdrawn the regulatory approval for the Transmission project.

W. POWERGRID Himachal Transmission Limited (formerly Jaypee POWERGRID Limited)

Power Grid Corporation of India Ltd. (POWERGRID) has acquired 74% stake on 25.03.2021 held by Jaiprakash Power ventures Ltd. (JPVL) in JPL (Jaypee POWERGRID Limited) and hence JPL has become a wholly owned subsidiary of POWERGRID. Consequent upon acquisition name of the Company has been changed from Jaypee POWERGRID Limited to POWERGRID Himachal Transmission Limited (PHTL).

PHTL is engaged in operation and maintenance of (i) 400 Kv D/C Karcham Wangto-Abdullapur Transmission Line with 219.80 KM (ii) LILO of 400 Kv D/C Baspa-Jhakri Line with 4.5 KM.

As on 31.03.2021, the Authorized and Paid-up Share Capital of PHTL is ₹ 300 crore. The project has been commissioned on 01.04.2012.

(₹ in crore)

Particulars	FY 2020-21	FY 2019-20
Gross Income	152.32	163.50
Profit after Tax	30.00	57.28

X. CENTRAL TRANSMISSION UTILITY OF INDIA LIMITED (CTUIL)

Pursuant to mandate of Govt. of India, the Company incorporated a Company, as its wholly-owned Subsidiary, namely ' Central Transmission Utility of India Limited on 28th December,2020. This Subsidiary has been mandated to be acquired by Govt. of India. As on 31.03.2021 the Authorised & paid Up Share Capital of CTUIL is ₹ 1 crore and ₹ 0.05 crore respectively.

27.0 Consolidated financial statement of POWERGRID

The consolidated financial statements have been prepared in accordance with Indian Accounting Standards (Ind AS) 110- 'Consolidated Financial Statements' and Indian Accounting Standards (IndAS) 28 - 'Investments in Associates and Joint Ventures'. On consolidated basis, the Total Income of the Company, during F.Y.2020-21, stood at ₹ 40,823.53 crore as against ₹ 38,670.96 crore during F.Y.2019-20, registering an increase of about 5.57%. Total Expenses for the year ended 31st March, 2021 stood at ₹ 24,820.56 crore as against ₹ 25,919.34 crore for the year ended 31st March, 2020. Profit after Tax during FY 2020-21 increased by 8.83% vis-a-vis FY 2019-20. A brief summary of the results on a consolidated basis is given below:

(₹ in crore)

	FY 2020-21	FY 2019-20
Total Income	40,823.53	38,670.96
Profit before Tax & Regulatory Deferral Account Balances	15,139.03	12,906.75
Profit after Tax	12,036.46	11,059.40
Net Cash from operating activities	29,312.15	30,738.63

Cautionary Statement

Statement in the Management Discussion and Analysis and Directors Report describing the Company's objectives, projections and estimates are forward looking statements and progressive within the meaning of applicable laws and regulations. Actual results may vary from those expressed or implied, depending upon economic conditions Government Policies and other incidental factors. Readers are cautioned not to place undue reliance on the forward-looking statements.

For and on behalf of the Board of Directors



(K. Sreekant)

Chairman & Managing Director

DIN: 06615674

Date: 26th August, 2021

Place: New Delhi