



पावरग्रिड  
POWERGRID

1<sup>st</sup> INTEGRATED  
ANNUAL REPORT  
(2022-23)

# LEADING ENERGY TRANSITION FOR A SUSTAINABLE FUTURE







**DHARAMPURI SUBSTATION**



# TABLE OF CONTENTS

## Corporate Overview

• Corporate Information	03
• Approach to Reporting	04
• Letter to Shareholders	06
• About POWERGRID	10
• Leading Energy Transition for a Sustainable Future	20
• Awards, Accolades & Certifications	22
• Report at a Glance	25

## Sustainability Strategy

• Sustainability – Yesterday, Today and Beyond	32
• Sustainability Vision, ESG Governance & ESG Goals	38
• Initiatives aligned with UN SDGs	42
• Stakeholder Engagement	47
• Materiality Assessment	52

## Corporate Governance

• Corporate Governance	54
• Risk Management	58

## Business Model

60

## Value Creation

• Financial Capital	62
• Manufactured Capital	66
• Intellectual Capital	78
• Natural Capital	86
• Human Capital	98
• Social and Relationship Capital	108

## GRI Index

121

## Statutory Reports

• Directors' Report	126
• Management Discussion and Analysis Report	150
• Business Responsibility & Sustainability Report	188
• Report on Corporate Governance	238
• Report on CSR	277

## Financial Statements

• Standalone Financials	281
• Consolidated Financials	429

## CORPORATE INFORMATION

POWER GRID CORPORATION OF INDIA LIMITED

CIN: L40101DL1989GOI038121

<b>Registered Office</b> B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110 016 Phone No. - 011-26560112, 26560115 & 26560193	<b>Company Secretary &amp; Compliance Officer</b> Shri Mrinal Shrivastava
<b>Corporate Office</b> “Saudamini”, Plot No. 2, Sector 29, Gurgaon - 122 001 (Haryana) Phone No. - 0124-2822999 & 2823999	<b>Website:</b> <a href="http://www.powergrid.in">www.powergrid.in</a> <b>E-mail ID:</b> <a href="mailto:investors@powergrid.in">investors@powergrid.in</a>
<b>For the Financial Year 2022-23</b>	
<b>Statutory Auditors</b> 1. <b>M/s. S. Ramanand Aiyar &amp; Co., Chartered Accountants</b> 108, Surya Kiran Building, 19, Kasturba Gandhi Marg, New Delhi-110001 Email: bala@sraco.in 2. <b>M/s. Umamaheswara Rao &amp; Co., Chartered Accountants</b> Office No. 1205, 11 <sup>th</sup> Floor, Vasavi MPM Grand, Ameerpet X Roads, Hyderabad, Telangana-500073 Email: ucohyd@umrcas.com 3. <b>M/s. B M Chatrath &amp; Co LLP, Chartered Accountants</b> #Centre Point#, 4 <sup>th</sup> Floor, Room No-440 21, Hemanta Basu Sarani, Kolkata, West Bengal-700001 Email: bmccal@bmchatrath.in 4. <b>M/s. P S D &amp; Associates, Chartered Accountants</b> 808, Tower – A, Omkar Alta Monte, Pathanwadi Malad East, Mumbai-400097 Email: Prakash-psd@rediffmail.com	<b>Cost Auditors</b> 1. <b>M/s Dhananjay V. Joshi &amp; Associates, Cost Accountants,</b> “CMA Pride”, Ground Floor, Plot No. 6, S.No. 16/6 Erandawana Co. Op. Hsg. Society, Erandawana, Pune -411004 Email: dvjasso@dvjasso.com 2. <b>M/s Bandyopadhyaya Bhaumik &amp; Co. Cost Accountants,</b> B-125, Chittaranjan Park, New Delhi-110019. Email: bbhco1994@gmail.com
	<b>Secretarial Auditor</b> <b>M/s Kumar Naresh Sinha &amp; Associates, Company Secretaries</b> 121, Vinayak Apartment, Plot No.: C-58/19, Sector-62, Noida-201309 (U.P) Mobile: 9868282032, 9810184269 Email: kumarnareshsinha@gmail.com
<b>Registrar &amp; Share Transfer Agent:</b> <b>Equity Shares:</b> <b>KFin Technologies Limited</b> Selenium Building, Tower B, Plot 31-32, Financial District, Nanakramguda, Serilingampally, Hyderabad, Rangareddi, Telangana - 500 032 Ph. : 040-67162222, Fax : 040-23431551 Toll Free No. 18003094001  Email : einward.ris@kfintech.com Website: www.kfintech.com <b>Bonds:</b> <b>BEETAL Financial &amp; Computer Services Pvt Ltd.</b> BEETAL HOUSE, 3 <sup>rd</sup> Floor, 99, Madangir, Behind LSC, New Delhi - 110062.   Ph. 011-29961281-283, 26051061, 26051064 Telefax.: 011-29961284 E-mail: beetalrta@gmail.com, beetal@beetalfinancial.com	<b>Bankers</b> State Bank of India Indian Overseas Bank Union Bank of India HDFC Bank Ltd. ICICI Bank Ltd. Axis Bank IndusInd Bank Ltd. Punjab National Bank Canara Bank Bank of Baroda Bank of India
<b>Shares and Bonds are Listed at:</b> National Stock Exchange of India Limited BSE Limited	
<b>Depositories:</b> National Securities Depository Limited Central Depository Services (India) Limited	
<b>Debenture Trustees</b>	
<b>For Bond Series XXVIII to XLI, XLIII to LVI and LVIII to LXXII Issue, GoI Bond</b> IDBI Trusteeship Services Ltd. Universal Insurance Building, Ground Floor, Sir P.M. Road Fort, Mumbai - 400001 Phone: 022-40807000, Email: <a href="mailto:itsl@idbitrustee.com">itsl@idbitrustee.com</a>	



# APPROACH TO REPORTING



This is Power Grid Corporation of India Limited's first Integrated Report for the reporting period FY 2022-23. As we embark on this journey, this report provides an overview of our financial and non-financial performance that have contributed to building both short and long-term value for our stakeholders adhering to the 3 key fundamental aspects of our sustainable business strategy, i.e. Environmental, Social, Governance (ESG). We consider our first Integrated report to mark a paradigm in being a medium to reflect and communicate our concerted efforts we have been making for the past many years in most effective and consistent manner and we strongly believe that it will be a stepping-stone towards an enlightening journey.

This Report is aligned to the International Integrated Reporting <IR> Framework, developed by the International Integrated Reporting Council (IIRC). In addition, this report is aligned (in reference to) to GRI Standards (2021) and Business Responsibility and Sustainability Report (BRSR) requirements laid down by Securities and Exchange Board of India (SEBI). Our Integrated Annual Report provides quantitative and qualitative disclosures on material topics and our relationship with our stakeholders.



## REPORTING SCOPE AND BOUNDARY

**Scope and Boundary:** This company's financial statements and disclosures, including the Directors' Report, Management Discussion and Analysis, and Corporate Governance Report comply with the Companies Act of 2013 and its regulations, Indian Accounting Standards and the SEBI (Listing Obligations and Disclosure Requirements) Regulations of 2015. The non-financial section is guided by the International Integrated Reporting framework with guidance from the International Integrated Reporting Council (now the Value Reporting Foundation). Key Performance Indicators (KPIs) are prepared in reference to the Global Reporting Initiative (GRI) Standards. The Business Responsibility and Sustainability Report (BRSR) refers to the Ministry of Corporate Affairs' National Guidelines on Responsible Business Conduct, which align with the United Nations Sustainable Development Goals (UN SDGs) regarding environmental, social, and governance responsibilities of businesses.

All the non-financial aspects of POWERGRID for this reporting period covers the business activities of POWERGRID on a consolidated basis. (only covering the fully owned subsidiaries and excludes the Joint Ventures and Associate Companies for this reporting period). However, the financial performance wherever considered for any calculation/ reporting, has been done on a consolidated basis which includes all JVs, Subsidiaries and Associates.

## REPORTING PERIOD

This Integrated Report covers financial and non-financial performance of the Company for the period covering April 01, 2022, to March 31, 2023. For certain key performance indicators (KPIs), comparative figures for the last three years have been incorporated in the report to provide performance trends.

## FORWARD LOOKING STATEMENT

There may be some forward-looking comments in this report. These projections are based on our current expectations, intentions, and beliefs about the circumstances, actions, and events that will or could take place in the future. Forward-looking terms like "believe," "plan," "anticipate," "continue," "estimate," "expect," "may," "will," or other similar words are typically used to identify such statements. A disclosure of the assumptions or other supporting information might be included in a forward-looking statement. These presumptions or bases were chosen by us in good faith, and we think they are reasonable in all relevant ways.

We do, however, caution you that the results implied by forward-looking statements and assumed facts or bases and actual results almost always differ, and the differences between the results implied by the forward-looking statements and assumed facts or bases and actual results can, depending on the circumstances, be material. It may be kept in mind that any forward-looking statement we make, whether in this report or elsewhere, only applies as of the time it was made. We cannot forecast future events or how they may affect us, thus there are always new challenges and uncertainties. After the date of this report, we are under no obligation to update or amend any forward-looking statements, and we have no plans to do so. Any forward-looking statement made in this report or elsewhere must be understood and interpreted in conjunction with this extra disclosure because it might happen or not given these risks and uncertainties.



# THE YEAR IN A REVIEW



## Dear Shareholders

My greetings and best wishes to you.

I am delighted to reach out to you and share the good tidings of stellar all-round performance by your Company for yet another year.

During 2022-23, POWERGRID added 2,972 circuit km of Extra High Voltage transmission lines, 28,990 Mega Volt Ampere of transformation capacity, and 9 new substations. Several important projects have been commissioned which include the 400kV D/c Jeerat (New) – Subhasgram line 400kV D/c Lower Subhansri-Biswanath Chariyali line-I, 400kV D/c Mohindergarh-Bhiwani line, etc. in the inter-state segment and the Bhind-Guna transmission system in Madhya Pradesh, Rampur-Sambhal Transmission System in U.P in the intra-state segment. In a first for the country, your Company commissioned a green field digital 220/66kV sub-station at Chandigarh during 2022-23. The Company made a capital investment of ₹ 9,212 crore and capitalized assets of ₹ 7,413 crore on a consolidated basis during the year.

On the operations front, transmission system availability of 99.82% was achieved and trippings per line were reduced to 0.27 during the year. These achievements demonstrate your Company's capabilities to maintain a large and complex transmission network consistently at high levels of operational performance. In the International Transmission Operation and Maintenance Study published in February'23, your Company has been recognized as a Best Performer (High Performance and Low Cost) both for transmission line and substation maintenance, and best in transformer maintenance. Keeping in view the growing cyber security concerns, a Cyber Security Operations Centre has been set up to monitor the network traffic.

The consolidated income of your company for the year 2022-23 was

₹46,605 crore, an increase of 9% compared to the previous year. The Profit After Tax for the year was ₹15,417 crore, which after excluding the exceptional items, is an increase of 11% over the previous year. We have declared and paid an interim dividend of ₹10 per share and proposed a final dividend of ₹4.75 per share which shall be paid upon your approval. The total dividend payout has been increased to 67% from 60% in the previous year, aligned with our policy to balance dividend payments and retained earnings for growth.

Our endeavors for growth have been successful in the traditional transmission business as well as in new areas. During the year your Company has been successful in winning 11 inter-state projects and has entered into an agreement with a large industry for the development of a dedicated transmission system on a bilateral basis. In the smart metering segment, your Company has been successful in receiving a mandate from the Gujarat Discoms (MVVNL and UGVNL) for the installation of more than 67 lakh meters under the DBFOOT model. Your Company has also approved the investment for installation of an 85MW solar power plant at Nagda, Madhya Pradesh which will be providing power for our captive needs as well as sale through exchanges.

Looking ahead, the commitment of our country to achieve 50% of electricity generation capacity through Non-Fossil sources by 2030 and the growing share of electricity in the overall energy mix would require significant investments in the transmission network, both at inter-state and intra-state levels. This would be further bolstered by the growing interest in Green Hydrogen and the plans to make India a leading exporter of Green Hydrogen. A number of transmission projects are expected to be offered for bidding over the next 12 months and your Company is well poised to grow its market share in this segment.

Cross-border inter-connections with our neighbouring countries such as Bangladesh, Bhutan, Myanmar, Nepal, and Sri Lanka and to inter-connect with the ASEAN countries will

improve and provide opportunities for growth. Your company has formed a joint venture with the Nepal Electricity Authority to set up the Indian portion of the Gorakhpur-New Butwal transmission link. It is my pleasure to share that the groundbreaking of this project was performed by the Honourable Prime Ministers of India and Nepal. Investment in the development of transmission infrastructure in Africa and other emerging countries is being pursued and there has been some progress in this direction, particularly in Kenya where your Company has partnered with AFRICA50.

The teleservices business of your Company is also growing, both in terms of network reach and revenues. The wholly owned subsidiary of your Company, POWERGRID Tele Services Ltd. (POWERTEL) has obtained a license for International Long Distance (ILD) services and the business transfer agreement to hive off the telecom business into POWERTEL has also been executed.

Your Company has a pivotal role to play in our country's energy transition journey, for the large-scale integration of renewables will require a strong, flexible, and resilient grid. I am confident that with its vast experience, committed and skilled manpower, and financial strength, your Company will continue to remain a leader in the Indian transmission sector and make a significant contribution towards India's energy transition. **To reduce the carbon footprint, your Company is committed to sourcing 50% of its energy from renewable sources by 2025, turning water positive by 2030, and becoming a net zero company by 2047. Your Company has published its 1st Integrated Annual Report (IAR) for the year 2022-23 and aligned reporting disclosures at par with global frameworks.**

On behalf of the Board of Directors of POWERGRID, I convey my sincere gratitude and thanks to you all for the trust reposed in and continued support to the management.

With the best assurances of our steadfastness to generate and deliver value to our esteemed shareholders,

Yours truly,

(K. Sreekant)

Chairman & Managing Director

Date: 6<sup>th</sup> August, 2023

Place : Gurugram

## LETTER TO SHAREHOLDERS FROM CHAIRMAN & MANAGING DIRECTOR

# ASPIRING TOGETHER



## OUR VISION

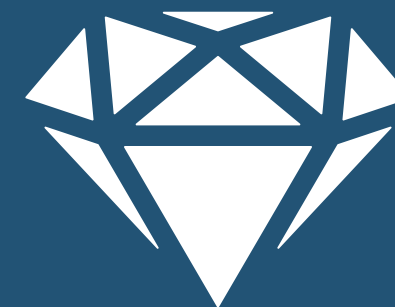
World Class, Integrated, Global Transmission Company With Dominant Leadership in Emerging Power Markets Ensuring Reliability, Safety and Economy.



## OUR MISSION

We will become a Global Transmission Company With Dominant Leadership in Emerging Power Markets with World Class Capabilities by:

- **World Class:** Setting superior standards in capital project management and operations for the industry and ourselves
- **Global:** Leveraging capabilities to consistently generate maximum value for all stakeholders in India and in emerging and growing economies
- **Inspiring, nurturing and empowering** the next generation of professionals
- Achieving continuous improvements through **innovation** and **state of the art technology**
- Committing to highest standards in **health, safety, security and environment**



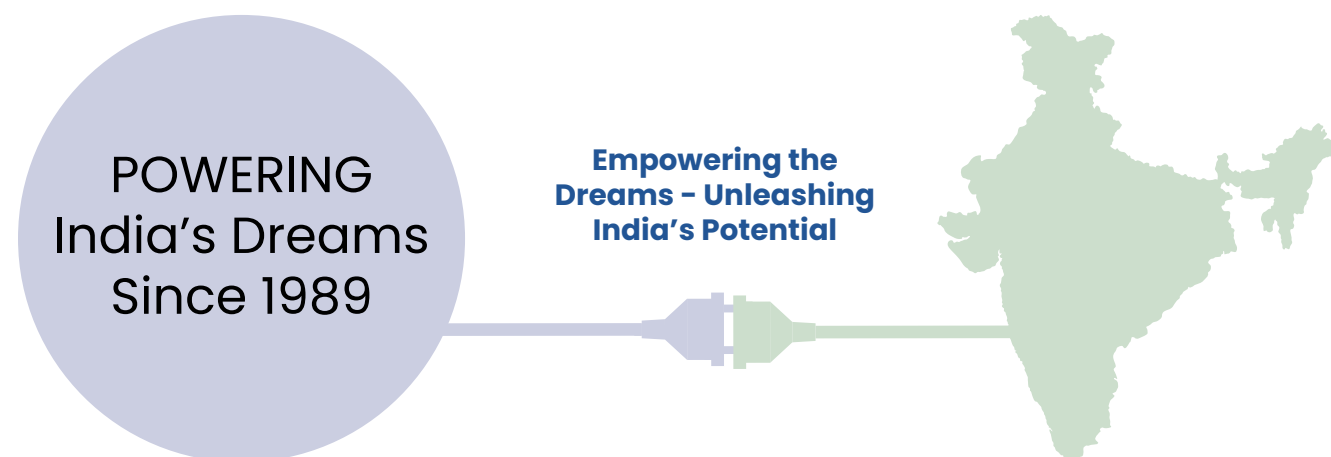
## OUR VALUES

- Zeal to Excel and Zest for Change
- Integrity and Fairness in all matters
- Respect for dignity and potential of individuals
- Strict adherence to commitments
- Ensure speed of response
- Foster learning, creativity and team-work
- Loyalty and pride in POWERGRID



# INTRODUCTION

## ABOUT POWER GRID CORPORATION OF INDIA LIMITED



“Powering India’s Dreams” stands as a visionary embodiment, reflecting India’s unwavering determination to achieve significant progress and comprehensive development across various sectors through the provision of electricity. It encapsulates the nation’s aspirations, symbolizing the idea of empowerment and harnessing India’s full potential.

Established in 1989 with an authorized capital of ₹ 5000 crore, Power Grid Corporation of India Limited (POWERGRID), formerly known as the National Power Transmission Corporation Limited (NPTC), has emerged as a significant player in the Indian power sector. From its inception, POWERGRID has evolved into a transformative force, shaping the landscape of progress and connectivity. With its headquarters firmly rooted in the bustling heart of National Capital Region of India, POWERGRID serves as an inspiring beacon, radiating its transformative influence across the nation. Strategic in its pursuit of operational excellence, the corporation has strategically established several regional offices, enabling seamless operations in diverse regions on pan india basis. These regional offices serve as the foundation of POWERGRID’s operational prowess, facilitating efficient power transmission and fostering a robust power ecosystem.

Driven by an unwavering commitment to meet India’s evolving energy needs, POWERGRID has orchestrated a transformative impact that reverberates throughout the nation. Through meticulous integration of the electric grid and expansion of transmission

infrastructure, POWERGRID has woven a formidable tapestry of transmission lines and substations. This interconnected grid breathes life into industries, empowers households, and propels the realization of India’s far-reaching ambitions. At the core of POWERGRID’s vision lies the promise of a prosperous future. It envisions a nation where industries flourish, rural communities thrive, and sustainable practices seamlessly intertwine with cutting-edge innovation. By delivering reliable and accessible electricity, POWERGRID empowers every Indian, fostering an environment where aspirations soar and the nation’s true potential is unleashed.

The journey of POWERGRID commenced in 1989 with a resolute goal – to pool expertise in the power sector, achieve economies of scale in EHV line design, construction, maintenance, and operation, and ensure the timely and cost-effective implementation of transmission line construction programs. Over the years, the Corporation has made remarkable strides in accomplishing these objectives. Embracing technological advancements and responding to the dynamic growth of the power sector, POWERGRID has expanded its operations, facilitating economic power exchange and supporting the development of renewable energy. Through the adoption of state-of-the-art communication technologies, software, and hardware for load dispatch and automatic generation control, POWERGRID has significantly enhanced the efficiency of its operations.

The journey of POWERGRID has been nothing short



of extraordinary. What commenced as an initiative to manage high-voltage transmission systems in 1989 has now transformed into India’s largest electric power transmission utility, proudly adorned with the prestigious status of ‘Maharatna’ bestowed by the Government of India. This phenomenal growth has been fuelled by unwavering perseverance, resilience, and an unyielding commitment to continuous improvement. As we look towards the future, POWERGRID stands poised for immense promise and opportunity. The power sector continues to evolve, and POWERGRID remains steadfast in its commitment to ensuring the timely delivery of power and the efficient

utilization of available resources. POWERGRID plays a pivotal role in driving India’s progress, empowering the dreams of millions, and propelling the nation towards a brighter and more prosperous tomorrow.

Welcome to the inspiring saga of POWERGRID, where dreams transcend boundaries, and the power of electricity fuels the journey towards a transformed India. Together, let us embark on this extraordinary voyage, as we unlock the true potential of our nation and etch an indelible mark on the mosaic of progress.

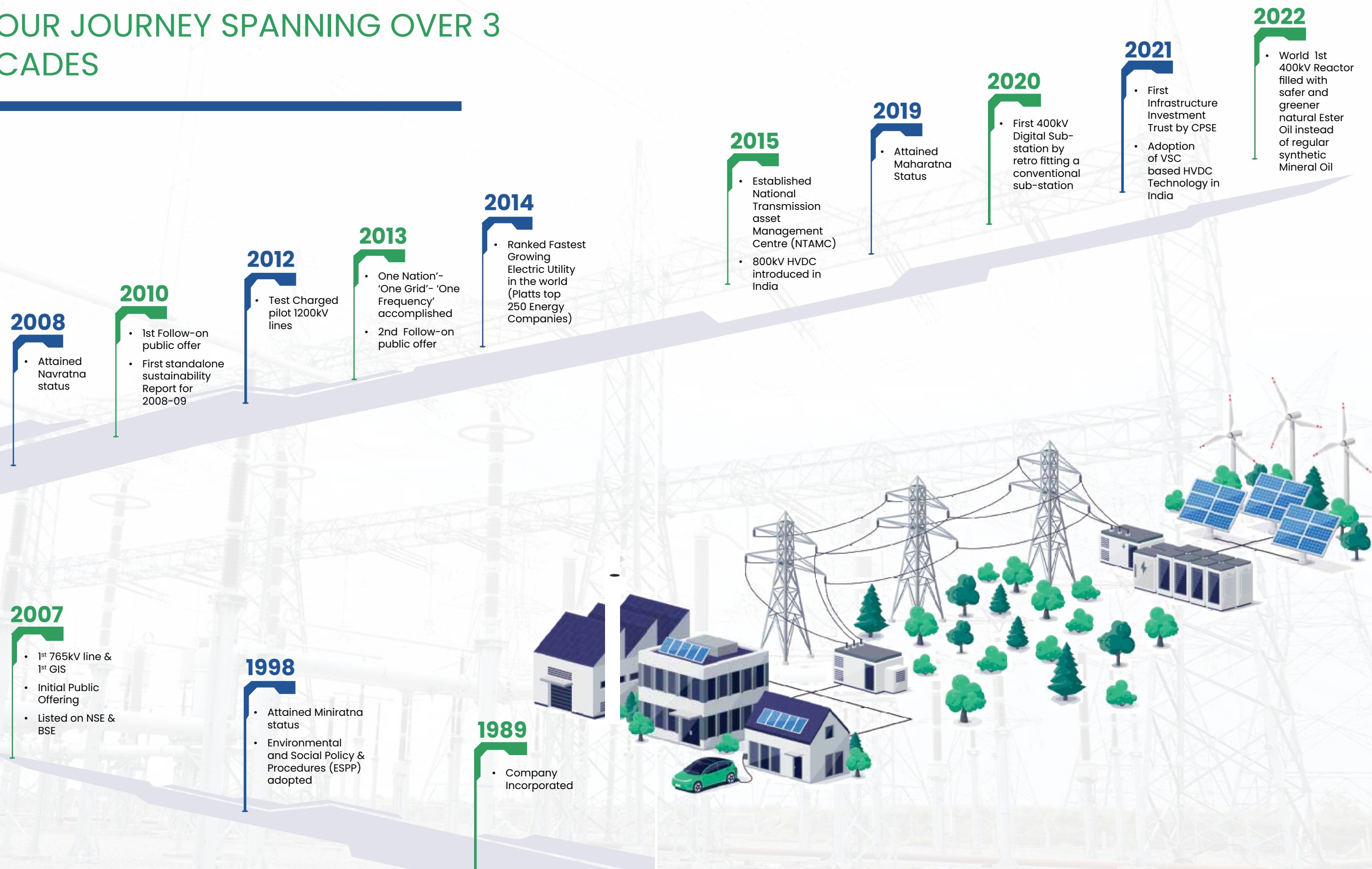
## OUR HISTORY OF VALUE CREATION – CULTIVATING STRENGTH

POWERGRID has embarked on a remarkable journey of value creation in the Indian power sector. POWERGRID through its efficient and reliable transmission network, has been facilitating the smooth and uninterrupted supply of electricity, powering economic growth and improving the lives of millions of Indians. Alongside its core transmission business, it has diversified into telecommunications and consultancy services, further expanding its value proposition.





# HERE'S A LOOK INTO OUR KEY MILESTONES IN OUR JOURNEY SPANNING OVER 3 DECADES





Uninterrupted power supply is the backbone of the India's economy underpinned by a strong transmission network. Through our strenuous efforts, we have been able to foster a vision that contributes significantly to the nation-building. **We are India's largest Power Transmission company** with a network of 174, 113 circuit kilometres (ckms), power transformation capacity of around 4,99,362 Mega Volt Amperes (MVA), and 272 substations spread across the length and breadth of the country.

We, at POWERGRID, have played an instrumental role in realizing the nation's vision of **One Nation One Grid One Frequency** which has led to the synchronization of all distributed regional grids. Our efforts align with the goal of sustainability as this enables the efficient utilization of limited natural resources by transferring power from resource-centric regions to load-centric ones.

We are devoted to the sustainable advancement and transformation of the Indian power industry and

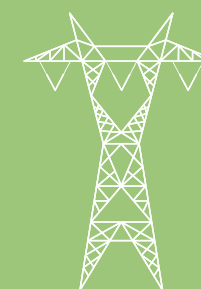
have been part of integration of renewable energy sources, such as solar and wind power, into the national grid. Fostering the culture of innovation, we have also enhanced our investments in research and development to improve the efficiency and reliability of the transmission system while lowering its overall ecological impact.

Leading from the forefront and capitalizing on our decades of experience we have built a unique technical expertise and the same is translated in our competence in implementing challenging transmission projects in the most difficult terrains of the country. **Our business operations are distributed into three segments, transmission, telecom, and consultancy. The transmission business segment being at the core accounts for more than 97% of total revenue from operations.**



765kV Bareilly Substation

# OUR BUSINESS



TRANSMISSION



TELECOM

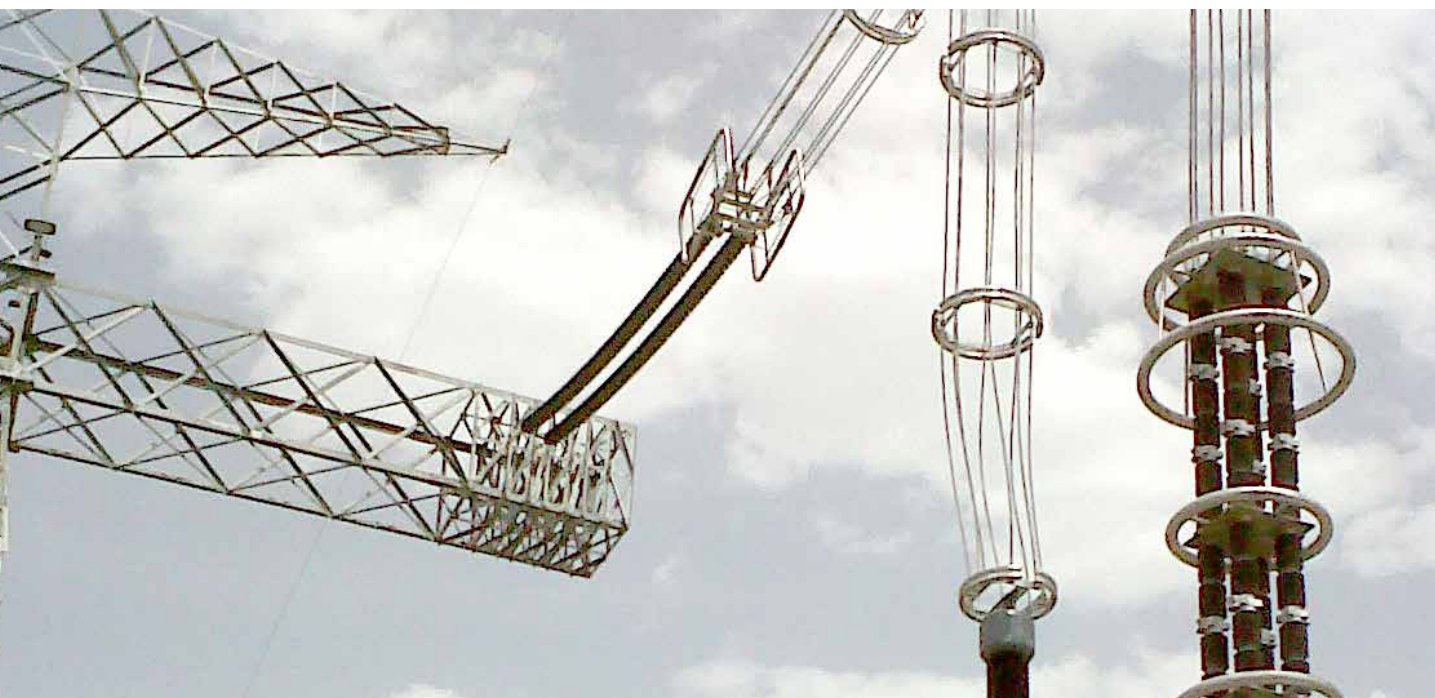


CONSULTANCY



NEW BUSINESS





## TRANSMISSION BUSINESS

At the very heart of our operations lies the criticality of the power transmission system, serving as the vital conduit for delivering power to consumers and bridging the gap between generating stations and the distribution network. Since our inception, we have embarked on a resolute mission to develop and fortify a robust transmission system, characterized by a unified grid boasting a singular frequency – a visionary concept of “One Nation One Grid One Frequency.” This revolutionary approach facilitates seamless transmission of power generated from any corner of the nation to consumers far and wide.

We firmly believe that the strength of our transmission system and the integration of our national grid will assume a pivotal role in propelling the country towards the realization of its Nationally Determined Contributions (NDC) and targets laid out in the historic Paris Agreement. Embracing India’s unwavering commitment to transitioning towards cleaner energy sources, **we are happy to be contributing to India’s task of integrating 500 GW of non fossil fuel based generation capacity by the year 2030.** In pursuit of this ambitious goal, we fervently explore the boundless opportunities presented by the tariff-based competitive bidding (TBCB) framework for our inter-state and intra-state transmission operations, all while upholding our steadfast responsibility under the Regulated Tariff Mechanism.

In our unwavering dedication to the national cause, we continuously endeavour to make astute and forward-thinking business choices, strategically shifting our focus towards bolstering the resilience



of the transmission system for renewable energy generators. Recognizing the emergent business prospects in this domain, we ardently engage with state transmission companies (Transcos) to foster the development of robust intra-state transmission systems.

Driven by a profound sense of purpose and commitment, we are resolute in our quest to steer the nation towards a future fuelled by sustainable energy sources. With each step we take, we remain steadfast in our determination to establish a resilient and dynamic transmission system, poised to meet the evolving needs of the nation and spearhead India’s formidable strides in renewable energy deployment.



## TELECOM BUSINESS

As the Indian landscape undergoes a magnificent transformation, poised to emerge as a digital-first economy, the demand for telecommunication services has surged to unprecedented heights. Recognizing this monumental shift, we, at POWERGRID, have harnessed the potential of our meticulously planned transmission infrastructure to usher in a new era of connectivity, creating substantial economic value while invigorating the Indian Telecom Sector.

POWERGRID with its brand name ‘POWERTEL’ in Telecom business is having pan India overhead Optic fiber network using Optical Ground Wire on power transmission lines and is offering transmission towers for Mobile Communications. With unparalleled determination and foresight, we have ingeniously deployed a cutting-edge fibre optic-based communication network, **that spans over 82,294 kilometers, with more than 3000 locations seamlessly dispersed throughout the nation.** Our resolute efforts have transcended geographical barriers, reaching even the remote corners of our beloved land, including the rugged terrains of Leh, Ladakh, and the enchanting North-eastern Regions. This extensive and reliable telecom network has

been a beacon of reliability and efficiency for our esteemed stakeholders, enhancing their operations and propelling their growth.

By virtue of our robust infrastructure, we have proudly catered to the diverse telecom service needs of customers including government departments, telecom service providers, internet service providers and esteemed global enterprises. Our unwavering commitment to progress is further exemplified through our invaluable partnerships with the Government of India’s Digital India initiative, actively participating in transformative endeavors such as the National Knowledge Network (NKN) and the pioneering Bharat Net projects.

Buoyed by our unwavering dedication, we relentlessly explore diverse business opportunities within the ever-evolving telecom segment. Our outlook encompasses the establishment of state-of-the-art data centers, poised to redefine the realm of digital infrastructure. Furthermore, we are venturing into the realm of International Long Distance (ILD) Bandwidth Business, to forge new frontiers and expand our footprint on the global stage. In alignment with this progressive trajectory, we have embarked upon the establishment of a pilot Data Center at Manesar, Gurugram, marking yet another significant milestone in our illustrious journey.

To fortify our standing as the epitome of telecom excellence, we have fortified our India-wide telecom network, enhancing its bandwidth capacity along established routes, thus propelling the potential for unparalleled connectivity.

With each stride we take, we reaffirm our commitment to India’s digital revolution, progress and empowerment.

