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India Cables Market Outlook to CY'30 - Driven by the Public and Private Infrastructure Expansion & Modernization Initiatives

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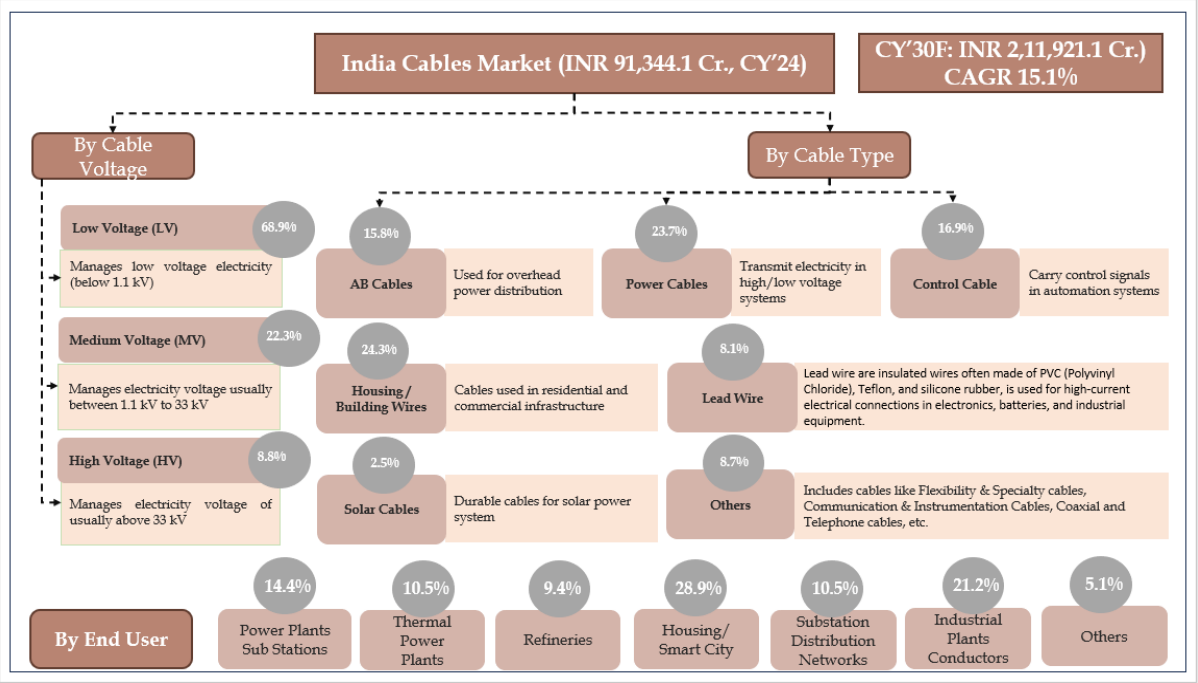


Source: Ken Research Analysis
Note 1: Percentages (%) shown in the above chart signifies market share for the respective segmentation during CY'24
Note 2: The market analysis has been captured at manufacturers price
Note 3: Above mentioned years are in Calendar Year starting from 1st January to 31st December

GLOBAL CABLES MARKET OVERVIEW

Global Cables Market Scenario:

The global cables market experienced fluctuations over the past few years, particularly in CY'20, where it saw 8.7% decline due to the pandemic's impact. However, the market quickly recovered with a 4.6% growth in CY'21, continuing to show steady growth thereafter. The market is projected to expand at a more accelerated rate in the coming years, with a forecasted CAGR of 10.2% from CY'24 to CY'30F. By CY'30F, global cables revenue is expected to reach USD 408.85 billion, up from USD 205.0 billion in CY'19, reflecting a strong recovery and future growth across energy, telecommunications, and renewable energy sectors.

INDIA CABLES MARKET OVERVIEW

India Cables Market Scenario:

The Indian cables market, measured in INR Cr., faced a dip in CY'20 due to the pandemic but rebounded strongly with a 5.8% growth in CY'21. From CY'20 to CY'24, the market recorded a growth of 10.0% CAGR, reaching INR 91,344.1 Cr., in CY'24 from INR 58,974.6 Cr., in CY'20. Beyond CY'24, the market is expected to accelerate significantly, with a forecasted CAGR of 15.1% from CY'24 to CY'30F. By CY'30F, the Indian cables market is projected to reach INR 211,921.1 Cr., and over INR 287,848.9 Cr., by CY'32, driven by infrastructure development, government initiatives like smart cities, and increased demand for renewable energy and telecommunications cables.

India Cables Market Segmentation:

In the India Cable Industry, **Housing/Building Wires & Power Cables hold the largest market share**, driven by the growing demand for residential, commercial, and smart city developments. **Control Cables follow, with strong demand** in sectors such as power generation, distribution, and industrial applications. By voltage, Low Voltage (LV) cables dominate the market due to their extensive use in residential, commercial, and small-scale industries. **Medium Voltage (MV) and High Voltage (HV) cables are experiencing increased demand**, particularly in power plants, refineries, and large industrial plants. The cable types include AB Cables, Power Cables, Control Cables, and housing/building wires, etc., contributing notably to market dynamics.

Competition Scenario of India Cables Market:

The **India Cable Industry** is moderately fragmented, with leading players including **Polycab India Limited, Havells India Limited, and KEI Industries Limited** dominating the specialty & medium and High voltage cables. Whereas mid-sized manufacturers such as **Dynamic Cables, V-Marc, Ultracab Wires, and Prime Cables** focus on high quality and value products at a competitive pricing focused on domestic infrastructure and industrial projects. Competition is driven by innovation in fire-resistant and halogen-free cables, compliance with Indian and international standards and the ability to meet diverse sectoral demands, including renewable energy and EV infrastructure. Export-focused strategies and product customization further strengthen players' positions in both domestic and international markets.

Factors driving growth of Cables Market in India:

The demand for cables in India is primarily driven by a combination of factors including rapid urbanization, which fuels residential and commercial construction requiring extensive cabling; and the development of smart cities that depend on robust wiring for utilities, surveillance, and digital infrastructure. A significant push comes from government-led initiatives focused on expanding and modernizing the country's power transmission and distribution networks, with an emphasis on substation-based generation and grid reliability. Additionally, rising investments in renewable energy sources such as solar and wind are creating a strong demand for specialized, weather-resistant cables. The ongoing expansion in industries such as manufacturing, mining, and automotive is also contributing to increased demand for Low Voltage (LV) and Medium Voltage (MV) cables across various applications.

The Way Forward: The Indian Cable Industry is set to witness robust growth, primarily driven by increasing investments in power infrastructure and transmission network modernization. A significant boost will come from government-led initiatives aimed at strengthening last-mile connectivity and reducing power losses—accelerating the adoption of Aerial Bunch (AB) Cables across rural and semi-urban regions. Simultaneously, sustained investments in power generation, especially at the substation level, and the ongoing expansion of the transmission and distribution grid are expected to drive consistent demand for Power and Control Cables. Industrial growth in sectors such as manufacturing, construction, and mining, supported by flagship programs like 'Make in India' and 'Electricity for All,' will further contribute to market expansion. With these structural drivers in place, the Indian cable market is well-positioned for steady and long-term revenue growth throughout the forecast period.

2. Research Methodology

2.1. Market Definitions

Global Cables Market Size: The Global Cables Market represents the total value of all cables sold worldwide, including various cable types such as power cables, control cables, data & communication cables, and specialty cables. This market size, measured in USD Billion, includes revenue generated by both domestic and international cable manufacturers from the sales of cables, covering applications in infrastructure, telecommunications, industrial, energy, and residential sectors. The market size is calculated based on the total volume and value of cables produced, installed, and consumed globally. Conductors, which are separate components used in cable manufacturing, are not part of this market.

India Cables Market Size: The India Cables Market refers to the total market value of cables sold in India of different types, including power, control, building & housing wires, solar cables, lead wires, and other cables such as instrumentation and data & communication cables, flexibility cables, etc. This market size, valued in INR Cr., includes cables manufactured within India as well as imported cables. It addresses key sectors like construction, energy, transportation, and industrial applications, where cables are essential for power distribution, data transmission, and control functions. The market size is derived from both sales and production figures within the country. Conductors, which are separate components used in cable manufacturing, are not part of this market.

Low Voltage Cable Market Size: The low voltage (LV) cable market refers to the market for electrical cables designed for applications that operate at voltages typically up to 1.1 kV (1100 volts). These cables are commonly used in residential, commercial, and industrial buildings for power distribution, telecommunications, and networking. The market size is influenced by demand from construction activities, energy distribution and increasing infrastructure development.

Medium Voltage Cable Market Size: The medium voltage (MV) cable market pertains to cables used for power distribution at voltages above 1.1 kV and up to 33 kV. These cables are critical for the transmission of electricity in industries, utilities, and power plants, typically in urban areas or to remote substations. The market size in this segment is influenced by infrastructure growth, smart grid technology adoption, and the need for electricity transmission over medium distances.

High Voltage Cable Market Size: The high voltage (HV) cable market includes cables used for power transmission and distribution at voltages typically above 33 kV. These cables are designed for long-distance transmission of large amounts of electricity from power generation plants to substations and distribution networks. The market size is impacted by investments in large-scale infrastructure projects, the expansion of renewable energy sources and growing demand for electricity in emerging markets.

Each of these cable markets is driven by different technological advancements, regulations and regional demands, which can fluctuate based on industry growth trends, energy needs, and power grid modernization initiatives.

2.2. ABBREVIATIONS

ABC Cable/AB Cable- Aerial Bunch Cables
AI- Artificial Intelligence
AT&C- Aggregate Technical & Commercial
BHEL- Bharat Heavy Electricals Limited
BIS- Bureau of Indian Standards
Bn- Billion
C&I- Consumer & Industrial
CAGR- Compound Annual Growth Rate
CEA- Central Electricity Authority
Ckm- Circuit Kilometer
CPI- Consumer Price Index
Cr./CR- Cr.,
DISCOMs- Distribution Company
DRHP- Draft Red Herring Prospectus
EHV- Extra High Voltage
EV- Electric Vehicle
FDI- Foreign Direct Investment
FTA- Free Trade Agreement
FY- Financial Year (April-March)
CY- Calendar Year (January-December)
GDP- Gross Domestic Product
GW- Gigawatt
HV- High Voltage
HVDC- High Voltage Direct Current
INR- Indian Rupees
IoT- Internet of Things

IPDS- Integrated Power Development
kV- Kilo Volt
LV- Low Voltage
Mn- Million
MU- Million Unit
MV- Medium Voltage
MVA- Megavolt-amperes
MW- Megawatt
NCR- National Capital Region
NIP- National Infrastructure Pipeline
NTPC- National Thermal Power Corporation
PGCIL- Power Grid Corporation of India Limited
PLI- Production Linked Incentive
PV- Photovoltaic
PVC- Polyvinyl Chloride
R&D- Research & Development
SEZ- Special Economic Zones
T&D- Transmission & Distribution
Tn- Trillion
TWh- Terawatt Hour
UAE- United Arab Emirates
UK- United Kingdom
ULDC- Unified Load Dispatch & Communication
USA- United States of America
USD- United States Dollar
V- Volt
Wh- Watt Hour
XLPE- Cross Linked Polyethylene
Y-o-Y- Year-on-Year

2.3. Market Sizing and Modeling

CONSOLIDATED RESEARCH APPROACH

Hypothesis Creation: The research team began by formulating hypotheses about the India Cable Industry, segmented by voltage (LV, MV, HV), end-user (Power Plants, Substations, Thermal Power Plants, Refineries, Housing/Smart Cities, Industrial Plants, and Others including Railways, Ports, Airports, etc.), and cable type (AB Cables, Power Cables, Control Cables, Housing/Building Wires, Lead Wires, Solar

Cables, and Others including Communication & Instrumentation Cables, Coaxial cables, telephone Cables, etc.). Initial hypotheses were framed by analyzing industry reports, market publications, journals, government documents, and online articles. Key areas of focus included market growth trends, pricing strategies, adoption of advanced cable technologies, and evolving regulatory frameworks. To estimate the market size, factors such as average cable installation costs, project sizes, material costs, and the number of ongoing and upcoming projects were considered.

Hypothesis Testing: To validate the hypotheses, CATIs and virtual interviews were conducted with senior management from key companies in the cable manufacturing and related segments, such as Polycab, Dynamic Cables, V-Marc India, Ultracab India Limited, KEI Industries, Finolex Cables, and Havells India, etc. Stakeholders interviewed included C-level executives, business development heads, regional managers, and strategy teams to gain insights into demand dynamics, pricing strategies, operational challenges, and market potential. Hypotheses regarding LV, MV, and HV cable demand, as well as specific cable types such as AB and control cables, were refined based on these insights.

Data Collection: Primary and secondary data collection methods were employed. Primary data sources included expert interviews, surveys, and feedback from industry stakeholders. Secondary data was gathered from company reports, industry publications, government documents, and databases to provide comprehensive coverage of the global and Indian markets.

Data Analysis: Collected data was analyzed using statistical models to estimate the market size, growth rates, and trends for each market segment. Segmentation by type, application, and region was conducted to produce targeted insights for each category within the cable market.

Table 2-1: Sample Composition Table by Stakeholders and Respondents in (%)

By Stakeholders	Sample Size: ~40 Respondents	Description
Cable Manufacturers	40%	• Plant Heads, Sales Head, Operations Heads, Category Heads, Strategy Team, CXOs, Distribution Heads
Power Generation and Distribution	25%	• Project Managers, Operations Heads, Procurement Heads
Contractors/Installers	20%	• Site Engineers, Project Managers, Regional Heads

Industry Experts	15%	• Regulatory Authorities, Industry Consultants, and Analysts

Sanity Checking and Decision Tree Analysis: Consensus on data from primary research and public and proprietary databases was reached through decision tree analysis. Primary and secondary data were cross verified to ensure accuracy and consistency. Secondary data sources included industry reports, proprietary databases, online articles, and government publications, which helped establish initial market perceptions and validate key drivers influencing growth. Additionally, market share analysis of prominent cable manufacturers was conducted to ensure accuracy in projections.

Interpretation and Proofreading: The final analysis was interpreted and consolidated into a research report by our expert team with significant experience in the cable industry. The report emphasized actionable insights for stakeholders, focusing on current market dynamics, growth opportunities, and emerging trends in the India Cable Industry.

LIMITATIONS

- Growth rate in the future is estimated based on the growth rate of Industries & expanding Transmission & Distribution networks and the evolving power demand among the end users. It is then validated through interviews with industry experts from different segments of the industry, who are also employees of these companies, and their estimate may not be exact, and they may be bullish with the numbers.

- The sampling technique has limitation to extrapolate the market hypothesis. Ken Research has used sufficient strata for the sample to reduce the significance level in the model. The significance level should not be more than 5-10%.

CONCLUSION

The expected value of India Cables Market is determined by using weighted average of the output of primary research, secondary research, expert opinions and subjective judgment. The weighted average method enables us to filter out the possible noise in each computation method and helps us to derive the best possible future projections.

3. Macroeconomic Overview

3.1. Global macroeconomic Scenario

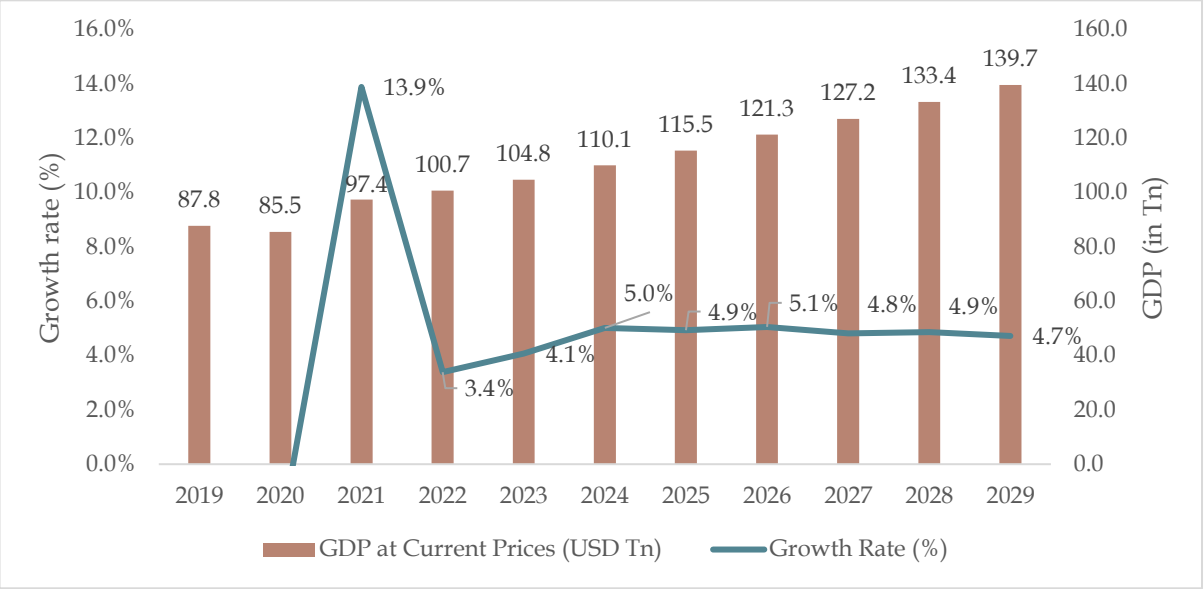
"Global nominal GDP has grown at a CAGR of 4.6% over the past five years. Three years post the largest economic shock, recovery continues with widening regional growth disparities." After a strong initial rebound from the depths of the COVID-19 pandemic, the pace of recovery has moderated. Several forces are holding back the recovery. Some reflect the long-term consequences of the pandemic, Russia's war in Ukraine, and increasing geoeconomic fragmentation. Others are more cyclical, including the effects of monetary policy tightening necessary to reduce inflation, withdrawal of fiscal support amid high debt, and extreme weather events.

According to the International Monetary Fund (IMF)'s World Economic Outlook growth projections, the global economic growth for **CY23 was 4.1% year-on-year (y-o-y), up from 3.4% in CY22,** due to recovery from the COVID-19 pandemic, fiscal and monetary stimulus, stabilized supply chains, increased consumer spending, digital transformation, a rebound in international trade, and renewed business investments in technology and healthcare. The global economic growth for CY24 was 4.1%, attributed to growth resilience in major economies driven by high government and private spending, rapidly subsiding inflation rates, and advanced economies easing their fiscal policies.

Global inflation declined steadily, from 6.2%in 2023 to 5.9% in 2024 and 4.5% in 2025. The United States, the world's largest economy, is expected to decelerate from **2.5% in 2023 to 1.4% in 2024** due to falling household savings, high interest rates, and a softening labor market. Consumer spending, a key driver of its economy, is likely to weaken due to various factors, including high interest rates and a softening labor market. The Euro area

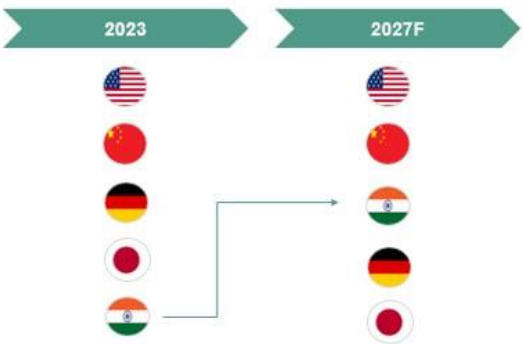
experienced annual average real GDP growth is expected to be 0.8% in 2024 and to reach 1.3% in 2025 and 1.5% in 2026. This recovery is underpinned by stronger household consumption as the impact of energy price shocks diminishes, coupled with a decrease in inflation, thereby bolstering real income growth.

Figure 3-1: Global GDP (at current prices) Outlook, 2019-2029



Source: Ken Research Analysis and Word Economic Outlook, 2024 (IMF)
Note: F represents Forecasted figures

Emerging Asia is the world region predicted to experience the highest gross domestic product (GDP) increase in the period **2023-25, at 5.2% in 2024 and 4.8% in 2025**. In Asia India stands out as the fastest growing economy among the major economies and estimated to emerge as the third largest economy globally hopping over Japan and Germany. India has shown a fair degree of resilience to the four Cs affecting the global economy — COVID-19, conflict (geopolitical), climate change, and central bank actions. Despite Covid-19's impact, high inflationary environment and interest rates globally, and the geopolitical tensions in Europe, India has been a major contributor to world economic growth. India is increasingly becoming an open



economy as well through growing foreign trade. Despite the global inflation and uncertainties, Indian economy continues to show resilience. This resilience is mainly supported by stable financial sector backed by well capitalized banks and export of services in trade balance. With this, the growth of Indian economy is expected to fare better than other economies majorly on account of strong investment activity bolstered by the government's capex push and buoyant private consumption, particularly among higher income earners.

Additionally, **Latin America and Sub-Saharan Africa are predicted to grow respectively by 1.9% and 3.8% in 2024 and 2.5% and 4.1% in 2025**.

Table 3-1: Trend in GDP Growth (%) Across major Economies, 2020-2029F

Country	2020	2021	2022	2023	2024	2025F	2026F	2027F	2028F	2029F
USA	-0.9%	10.6%	9.1%	6.3%	5.2%	3.7%	4.0%	4.0%	4.1%	4.1%
China	3.6%	19.5%	0.5%	-1.1%	4.9%	6.8%	6.3%	5.9%	5.8%	5.3%
Germany	-0.3%	10.3%	-4.4%	9.0%	2.9%	3.9%	3.6%	3.0%	2.8%	2.5%
Japan	-1.2%	-0.6%	-15.3%	-1.2%	-2.4%	4.9%	4.4%	3.3%	4.1%	2.1%
India*	-1.2%	18.9%	14.2%	9.6%	10.4%	10.2%	10.4%	10.4%	10.2%	10.5%
United Kingdom	-5.3%	16.3%	-1.3%	7.7%	4.8%	5.4%	6.2%	5.6%	6.0%	6.2%
France	-2.9%	11.7%	-6.1%	9.0%	3.3%	2.9%	3.4%	3.3%	2.9%	3.1%
Brazil	-20.9%	12.8%	16.8%	11.3%	7.4%	4.7%	6.6%	6.2%	5.1%	5.5%
Italy	-5.5%	13.7%	-4.2%	9.2%	3.1%	2.6%	2.1%	2.0%	2.8%	2.7%
Canada	-4.6%	21.1%	7.5%	-0.9%	4.7%	5.4%	4.7%	4.5%	4.3%	4.5%

Source: Ken Research Analysis and Word Economic Outlook, 2024 (IMF);
Note 1: F represents Forecasted figures
Note 2: Numbers for India are for Financial Year (Financial Year 2020-2021 is 2020 and so on) and as per IMF forecast. Others are represented in Calander Year January-December)

4. Overview of Indian Economic Environment

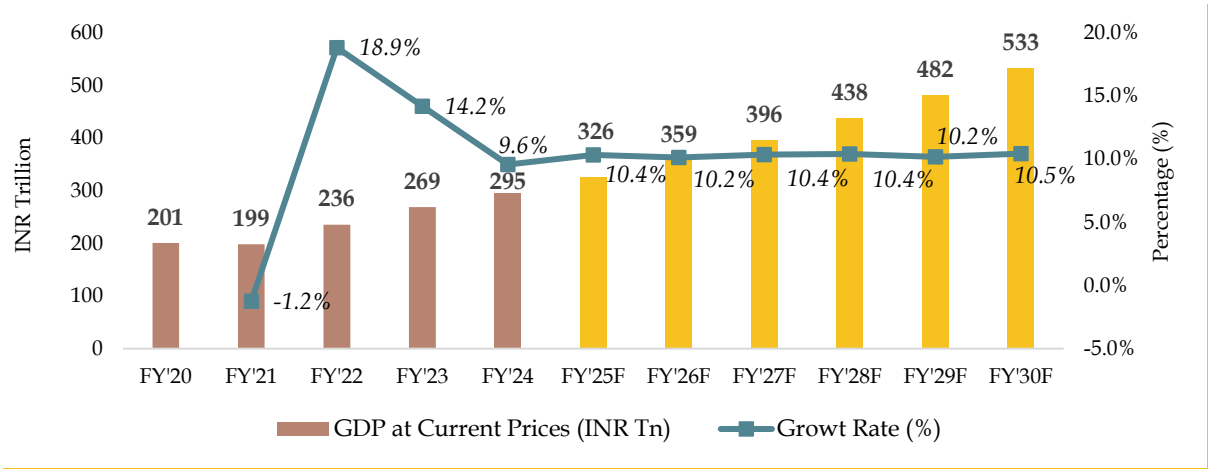
"India has emerged as the fastest-growing major economy in the world with nominal GDP growth rate of 10.4% expected in FY'25, backed by its robust democracy and strong partnerships."

Strong economic growth in the first quarter of FY'23 helped India overcome the UK to become the fifth-largest economy after it recovered from the COVID-19 pandemic shock. India's appeal as a destination for investments has grown stronger and more sustainable, with the Indian government's investor friendly policies aiming for a **100% FDI under automatic routes as of 2024.** This FDI policy announced in 2024 is said to be a part of budget 2025, which will help boost national GDP to further 10.4% by FY'25.

In FY'22, the economy recovered from the pandemic-related stress as restrictions were eased and economic activity resumed, though inflation spiraled in the last quarter due to geopolitical pressures, with a GDP print of 18.9% vs -1.2% in FY'21. In FY'23, GDP rose 14.2% on strong growth momentum propelled by investments and private consumption. The share of investments in GDP rose to an 11-year high of 34% and that of private consumption to an 18-year high of 58.5%.

In FY'24, nominal GDP grew at 9.6% and was estimated at INR 295.4 Tn, driven by continued strong investment and subdued private consumption growth. Nominal GDP, or GDP at current prices in the March quarter of 2023-24, is estimated at INR 78.28 lakh Cr., against INR 71.23 lakh Cr., in the year-ago period, showing a growth rate of 9.9%.

Figure 4-1: Indian GDP (at current prices) in INR Trillion and Growth Rate (in %), FY'20 - FY'30F



Source: Ministry of Statistics and Programme Implementation (MoSPI), Word Economic Outlook, 2024 (IMF), Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: FY represents Financial Year (April-March)

4.1. Key Economic Indicators and Their Impact on the Cables Industry in India

India's cables industry is intricately linked to the nation's economic performance, with key indicators playing a significant role in shaping demand, supply, and growth opportunities. Some of the key economic factors influencing the sector includes:

- **Gross Domestic Product (GDP):** India's GDP growth, projected to be around 6-6.5% in FY25, reflects strong economic activity and infrastructure development. Rising GDP accelerates public and private sector investments in sectors like energy, construction, and transportation, creating opportunities for high-quality and specialized cables.

- **Infrastructure Development:** Government initiatives like the National Infrastructure Pipeline (NIP), which aims to invest INR 111.30 lakh Cr., between FY'20 to FY'25, underline a sustained focus on infrastructure.

Projects in highways, metro rail, smart cities, and renewable energy significantly increase the need for cables for transmission, distribution, and connectivity. Growing infrastructure spending is foreseen to foster the demand for durable, high-capacity cables, especially in the high-voltage and fiber-optic segments.

Table 4-1: India Sector-wise annual capital expenditure in Infrastructure as per the NIP, in INR Cr. FY'20 - FY'25

Ministry/ Department	FY'20	FY'21	FY'22	FY'23	FY'24	FY'25
Power	164,140	225,551	221,734	223,487	225,236	211,002
Renewable Energy	30,500	151,000	144,000	170,000	217,000	217,000
Atomic Energy	11,635	21,462	28,324	33,124	32,674	28,284
Petroleum and Natural Gas	27,332	43,510	48,314	41,523	22,858	10,535
Roads	332,559	383,283	356,966	252,780	240,761	332,659
Railways	133,387	262,465	308,800	273,831	221,209	167,870
Ports	13,357	18,104	20,649	15,863	7,724	10,002
Airports	18,667	21,655	24,820	21,334	25,386	5,141
Atal Mission	298,174	462,208	404,134	234,858	217,164	159,862
Digital communication	78,356	61,847	54,538	38,719	38,119	38,093
Irrigation	114,463	200,615	175,669	137,358	115,281	70,474
Rural infrastructure	103,555	116,306	109,930	27,055	27,055	27,055
Water and sanitation	36,758	60,497	100,881	84,822	80,002	NA
Agriculture infrastructure	3,109	3,376	3,423	1,850	1,176	649
Food processing industries	461	519	203	73	NA	NA
Higher education	20,412	27,922	34,570	29,567	27,406	12,285
School education	5,053	7,132	7,077	6,398	6,569	5,562
Health and family welfare	28,719	40,132	39,914	16,096	9,756	6,544
Sports	1,320	1,547	1,424	1,389	1,220	840
Tourism	1,104	1,581	2,059	1,863	1,196	715
Industries and internal trade	17,412	40,676	42,558	33,529	22,731	10,520
Steel	1,658	2,390	2,287	1,600	290	NA

Source: Department of Economic Affairs, Ministry of Finance- NIP Volume I
Note: Atal Mission is focused on Rejuvenation and Urban Transformation, Smart Cities, MRTS, Affordable Housing, Jal Jeevan Mission

- **Energy Sector Transformation:** India's energy sector transformation, driven by a 7% CAGR in demand and investments in renewable energy, is fueling the growth of the cables industry. The shift toward renewable projects like solar and wind power increases the need for specialized Cables.

- **Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY):** DDUGJY was launched in December, 2014, with an

initial investment of INR 756 Bn, for various rural electrification works across the country. As part of this flagship program a total of 18,374 villages were electrified under the scheme til 2022. The scheme stands closed as on 31-03-2022 (as per Ministry of Power).

- **Pradhan Mantri Awas Yojana –** Urban (PMAY-U), launched in 2015, aims to provide permanent housing in urban areas. As of November 25, 2024, a total of 1.18 crore houses have been sanctioned and over 89 lakhs completed. PMAY-U 2.0 was launched in September 2024 to assist an additional one crore households. Currently, 29 states and union territories have signed agreements to implement PMAY-U 2.0, with approval having been granted for 6 lakh houses in FY'25.

- **Revamped Distribution Sector Scheme (RDSS)– INR 3,03,758 Cr:** The Scheme aims to reduce the AT& C losses to pan-India levels of 12-15% and ACS-ARR gap to zero by 2024-25 by improving the operational efficiencies and financial sustainability of all DISCOMs/ Power Departments excluding Private Sector DISCOMs.

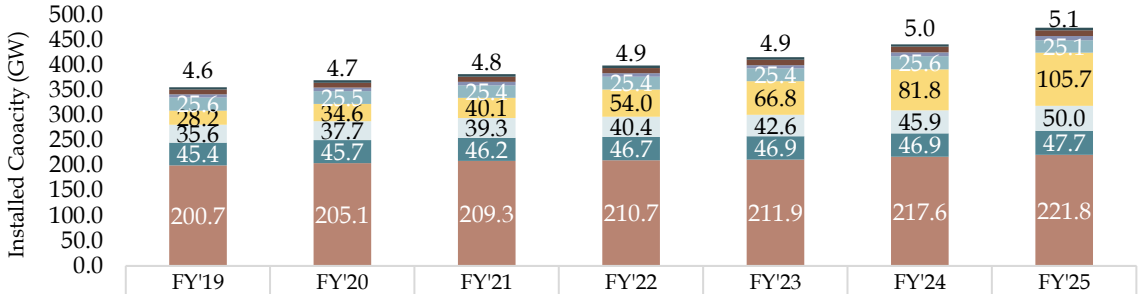
- **MNRE Extension of Phase-II of Grid Connected Rooftop Solar Programme – INR 11,814 Cr:** Aims to install grid connected rooftop solar till 2026, for both components of the program (the incentives to discoms (distribution companies) and Central Financial Assistance (CFA) to the residential sector).

4.2. Energy Infrastructure Growth in India

In FY'25, India's total installed capacity has reached to 475.2 GW, with coal's share decreasing to around 46.7% from 49.2% in previous year, while solar significantly increased to about 22.2% from 18.5% in FY'24, Hydro maintained a steady contribution at around 10%, and wind at around 10.5% in FY'25. Other sources such as small-hydro, Nuclear, bio power, and oil and gas, each will contribute smaller but stable shares, ranging from around

1.1% to 5.4%. This shift reflects India's commitment to increasing renewable energy sources, particularly solar, while maintaining a balanced energy mix to meet growing electricity demands.

Figure 4-2: India Electricity Installed Capacity in GW, FY'19 - FY'25



	FY'19	FY'20	FY'21	FY'22	FY'23	FY'24	FY'25
Small-Hydro	4.6	4.7	4.8	4.9	4.9	5.0	5.1
Bio Power	9.2	10.0	10.3	10.7	10.8	10.9	11.6
Nuclear	6.8	6.8	6.8	6.8	6.8	8.2	8.2
Oil & Gas	25.6	25.5	25.4	25.4	25.4	25.6	25.1
Solar	28.2	34.6	40.1	54.0	66.8	81.8	105.7
Wind	35.6	37.7	39.3	40.4	42.6	45.9	50.0
Hydro	45.4	45.7	46.2	46.7	46.9	46.9	47.7
Coal	200.7	205.1	209.3	210.7	211.9	217.6	221.8

Source: India Climate & Energy Dashboard, Niti Aayog as on April 2025
Note 1: FY represents Financial Year (April-March)

Outlook: India's electricity sector is poised for significant augmentation in installed capacity and consumption over the coming years.

- **According to the 20th Electric Power Survey of India**, energy consumption is projected to rise from 1416 BU in FY'25 to 2133 BU in FY'32, reflecting a steady increase in demand.

- Energy requirements are expected to grow from 1695 BU in FY'25 to 2474 BU in FY'32, indicating a robust expansion in power needs.

- Transmission and distribution (T&D) losses are projected to decrease from 16.4% in FY'25 to 13.7% in FY'32, signifying improvements in grid efficiency. These projections underscore India's commitment to

enhancing its power infrastructure to meet the escalating demand for electricity while improving overall grid performance.

The below table shows India's energy projections from FY'25F to FY'42F indicating consistent growth in both energy consumption and requirement. **Energy consumption is expected to rise from 1,416 BU in FY'25F to 3,030 BU in FY'42F**, driven by industrial and urban growth.

Energy requirements, however, will outpace consumption, increasing from 1,695 BU in FY'25 to 3,342 BU FY'42F, highlighting inefficiencies in power generation and distribution, largely due to plant capacity utilization factor (CUF), plant load factor (PLF) and T&D losses. This is due to the fact that the total installed capacity of a plant does not necessarily mean that a power plant is generating electricity with its 100% capacity.

Another factor that supports lesser electricity supplied is the temporary load reduction of a power plant due to limited access to raw materials like coal. Thus, due to fuel-related outage the power plants often shut down temporarily or operates in reduced generation capacity.
Thirdly, the power plants goes into Maintenance activities due to which a temporary disruption in electricity generated from power plant occurs. Thus, CUF, T&D losses, fuel related outages, explains the gap between total installed capacity, energy requirement, and energy supplied in India.

Further, the **peak load demand is foreseen to increase significantly, from 245 GW in FY'25F to 487 GW in FY'42F**, with a notable surge between FY'30F and FY'31F. Peak demand is the actual demand for electricity that occurred within a specified period of the day often calculated in each 15 minutes. This average is recorded by the utility meters, and the interval with the highest

electricity usage in 365 days of a year is set as the peak demand of that year.

Apart from this the **T&D loss percentage is expected to decrease from 16.4% to 9.3% by FY'42F,** indicating improvements in grid efficiency which includes the replacement of traditional power cables with covered underground cables. The Annual Load Factor will slightly decline, but remain relatively stable with respect to the increased renewable energy integration, non-merit order scheduling of power plants, and the retirement of inefficient thermal power units.

Table 4-2: Energy Augmentation Projections in India (Billion Units), FY'25F - FY'42F

Parameter	FY'25F	FY'26F	FY'27F	FY'28F	FY'29F	FY'30F	FY'31F	FY'32F	FY'37F	FY'42F
Energy Consumption (BU)	1,416	1,509	1,610	1,713	1,821	1,949	2,042	2,133	2,490	3,030
Energy Requirement (BU)	1,695	1,797	1,908	2,021	2,139	2,280	2,378	2,474	2,796	3,342
Peak Demand GW)	245	260	277	295	213	335	351	366	405	489
T&D Loss (%)	16.4%	16.0%	15.6%	15.2%	14.9%	14.5%	14.1%	13.7%	10.9%	9.3%
Annual Load Factor (%)	79.1%	78.9%	78.6%	78.3%	78.0%	77.7%	77.4%	77.1%	75.9%	75.0%

Source: India Climate & Energy Dashboard, Niti Aayog, and CEA-Report on Twentieth Electric Power Survey of India (Volume-I)
Note 1: F represents Forecasted figures and FY represents Financial Year (April-March)
Note 2: T&D Loss is calculated as energy requirement- energy consumption/energy requirement.
Note 3: FY'37F and FY'42F figures are Long term electricity demand projection on all India basis
Note 4: Peak demand is the highest demand for electricity at a given period (usually 15 min interval) in a year

4.3. FDI Flow, Investment Climate and Trends in India

"India is one of the most attractive FDI destinations in the world today with a total FDI inflow of USD 70.95 Bn in FY'24."

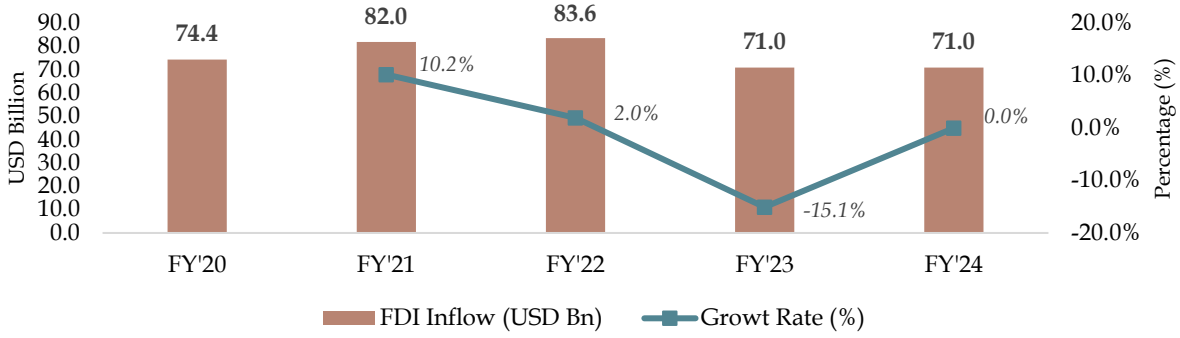
The Government has put in place an investor-friendly Foreign Direct Investment (FDI) policy under which most sectors except certain strategically important sectors are

open for 100% FDI under the automatic route. Total FDI inflows in the country in the FY'24 is USD 70.95 Bn and FDI equity inflows stands at USD 44.42 Bn. Singapore (26.6%), Mauritius (18%), USA (11.3%), Netherland (11%) and Japan (7.2%) emerge as top 5 countries for FDI equity inflows into India FY'24. (Source: Invest India).

The top 5 sectors receiving the highest FDI Equity Inflow during FY'24 are Manufacturing (20%), **Electricity and Other Energy Generation Distribution & Transmission (12%)**, Computer Services (11%), Financial Services (10%), Retail and wholesale trade (9%). (Source: Ministry of Commerce and Industry)

The positioning of the power sector as the second largest recipient of FDIs ensures large scale investment in power generation, transmission and distribution capacity. It in turn will directly boost the demand for cables for better grid reliability & efficiency in the country.

Figure 4-3: India Foreign Direct Investment in USD Billion and Y-o-Y Growth Rates (in %), FY'20 - FY'24



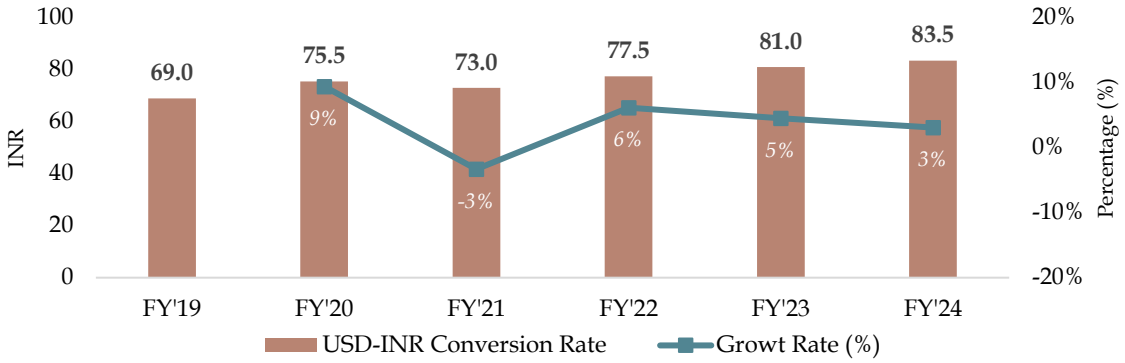
Source: Invest India, Make in India, & Press Information Bureau
Note: FY represents Financial Year (April-March)

4.4. Currency Dynamics Linked to Rupee-Dollar Exchange Rate

Understanding the dynamics of currency exchange between the INR and the USD is crucial for navigating

India's economic landscape. As of 2024, the exchange rate hovers around 83 INR per USD, influenced by key factors listed below.

Figure 4-4: Currency Exchange Rate from USD to INR and Growth Rate in (%), FY'19 – FY'24



Source: Reserve Bank of India (RBI) & Ken Research Analysis
Note: FY represents Financial Year (April-March)

- **Inflation rate:** The Y-o-Y inflation rate based on CPI is 5.08% (Provisional) for June 2024, reducing the INR's purchasing power. Higher inflation typically weakens the INR against the USD, making imports more expensive and exports more competitive.

- **Trade balance**: India recorded a trade deficit of USD 78.12 billion, a 35.77% improvement from USD 121.62 billion in FY'23, indicating a narrowing gap between imports and exports. However, the deficit shows imports still exceed exports, increasing demand for foreign currencies like the USD. FY'24 trade includes USD 776.68 billion in exports and USD 854.8 billion in imports.

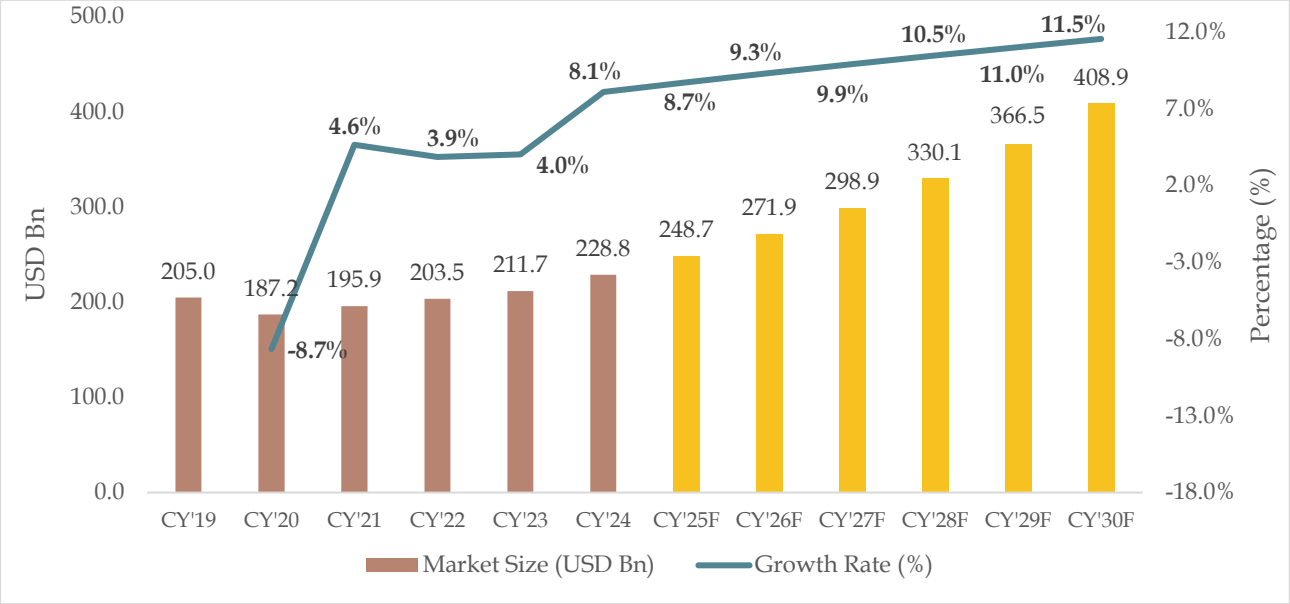
- **Geopolitical events and economic trends**: Global oil prices rose from USD 55.6 per barrel in 2019 to 76.1 USD per barrel in 2023, increasing India's import costs and impacting the INR. As a major oil importer, higher prices drive up USD demand, weakening the INR.

5. Global Cables Market Outlook

5.1. Overview and Market Size of Global Cables Industry

The global cables market has experienced varying demand trends, influenced by industrial growth, technological advancements, and infrastructure development. Historically, demand for cables was driven by the need for electrical distribution, especially in residential, commercial, and industrial sectors. In **CY'19, the market size was USD 205.0 Bn, but it faced a decline in FY'20, dropping to USD 187.2 Bn**, largely due to the pandemic-related slowdown. However, by **CY'23, the market had recovered, reaching USD 211.7 Bn, and recorded a growth rate of 2.2% CAGR from CY'19 to CY'24**.

Figure 5-1: Global Cables Market Size on the Basis of Revenue in USD Billion and Growth Rate in (%), CY'19-CY'24-CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY represents Calendar Year (January-December)

Cable demand globally is predominantly driven by low and medium-voltage cables, with AB, Power, and Control cables holding a **dominant revenue share in these**

segments. Regions such as China and India are witnessing significant growth in low-voltage cable demand, primarily driven by **rapid urbanization, infrastructure development, and increased investments in energy sector.** These regions rely heavily on **AB, Power, and Control cables** for efficient transmission and distribution, particularly for power infrastructure, ensuring reliable energy delivery. Similarly, **countries like the USA and Europe** are experiencing strong demand for low-voltage cables, including underground and overhead power distribution and transmission cables. This demand is driven by advancements in energy infrastructure, where AB, Power, and Control cables are crucial for modernizing grid systems and enhancing energy efficiency across various industrial applications.

Looking ahead to **CY'24-CY'30, the global cables market is expected to grow at a solid CAGR of 10.2%, with significant demand for AB, Power, and Control cables** in the low and medium-voltage segments. Growth will be primarily driven by the ongoing transition to smart grids and the global push for infrastructure upgrades. The Asia-Pacific region, particularly China and India, will continue to lead in cable demand, with AB, Power, and Control cables being essential for supporting massive infrastructure projects and the modernization of power transmission and distribution systems. **The Middle East, focusing on sustainable energy and large-scale smart city initiatives, will also see growing demand for low, medium, and high-voltage cables,** particularly in power distribution and efficient grid management. North America and Europe will contribute to this growth through the demand for low-voltage control cables and transmission cables, driven by grid modernization and energy infrastructure improvements.

The detailed analysis of the key factors supporting demand for cables across global markets are explained below:

EXPANSION OF POWER INFRASTRUCTURE AND GRID MODERNIZATION ACROSS EUROPE AND THE USA

The aggressive expansion of power infrastructure and grid modernization projects across Europe and the U.S. is driving strong demand for various power cables, including low to ultra-high voltage cables for **efficient transmission and distribution**. In Europe, the European Commission's **REPowerEU plan aims to enhance energy security and efficiency,** which includes significant investments in offshore and onshore power transmission systems, particularly in regions like the North Sea. This is directly increasing the need for power cables to transmit electricity over long distances to substations and grid systems.

In the U.S., **grid modernization initiatives under the Building a Better Grid Initiative (launched in 2022)** are also pushing the demand for underground and overhead cables, especially those up to 33 kV, for expanding and upgrading the national grid. The initiative aims to create a more resilient grid and ensure efficient power distribution across regions.

Additionally, **large-scale installations and grid tie-ins are generating increased demand for low-voltage control cables**, especially for use in switchgear, relay systems, and SCADA (Supervisory Control and Data Acquisition) integration. The integration of energy storage solutions and the expansion of onshore substations are also contributing to the growing demand for low-voltage control cables, which are crucial for efficient power management and grid balancing.

SMART CITIES AND INFRASTRUCTURE MODERNIZATION

Governments in the **Middle East region including countries such as Saudi Arabia, and UAE** are investing

heavily in smart infrastructure programs like **Saudi Vision 2030**, **NEOM**, and **Smart Dubai**. These programs drive the need for **low-voltage power cables (up to 1kV)** to energize smart lighting, transport systems, HVAC, and surveillance infrastructure. Specific demand is rising for **armoured underground LV cables** due to urban fire safety norms and dense construction layouts.

In remote project zones—such as **NEOM's early-stage zones** or **desert solar farms**—the use of **Aerial Bunched (AB) Cables** is growing. AB cables are favoured in these regions for their **resilience to dust, low maintenance**, and **resistance to short circuits**, making them ideal for above-ground deployment in non-urban smart grid feeders. AB cables help in maintaining stable supply without digging costs, especially in utility corridors or along temporary infrastructure lines.

Additionally, fiber optic communication cables and CAT6/7 data cables are crucial for IoT-based command systems, surveillance, and automated energy management in smart cities. Further, inclusion of building automation systems & devices, elevator systems, and central HVAC monitoring is also driving substantial requirement for low voltage control cables to support these systems operations.

GROWTH OF ELECTRIC VEHICLE CHARGING ECOSYSTEM

The rapid expansion of EV infrastructure is driving targeted demand for cables used in charging stations and power distribution networks. Programs such as the **U.S. NEVI (National Electric Vehicle Infrastructure) Program** and Europe's **AFIR (Alternative Fuels Infrastructure Regulation)** require reliable and fire-retardant **1kV-rated LV cables** to connect transformers, charging units, and metering systems. These projects also deploy **multi-core screened control cables** for charger operation, billing systems, and diagnostics.

For connecting urban and suburban areas with EV infrastructure, **Aerial Bunched (AB) Cables** are in increasing demand—especially in **rural North American and Eastern European regions**—due to their lower installation cost and higher safety over bare conductors. Government grants in **Canada** and **Eastern Europe** support AB cable deployment for last-mile electrification of EV infrastructure in low-density zones.

DATA CENTER EXPANSION PROJECTS DRIVING UPGRADES IN INDIA'S T&D NETWORK

The accelerating expansion of data centers worldwide—driven by technologies like 5G, cloud computing, and the Internet of Things (IoT)—is fueling a sharp increase in electricity consumption and prompting major upgrades to global energy infrastructure. With **over 8,000 operational data centers as of 2023,** the U.S., Europe, and China dominate the landscape, representing around 33%, 16%, and 10% of the global market, respectively. Projections indicate that electricity use in U.S. data centers will climb from **200 TWh in 2022 to 260 TWh by 2026**. In China, this figure could reach 300 TWh, while Europe is anticipated to grow from 100 TWh to 150 TWh during the same period.

To meet this surge in demand, countries are scaling up transmission and distribution systems, integrating more renewable sources, and improving overall grid resilience. This is leading to increased deployment of high-voltage power cables for transmission between generation sites and urban centers, along with low-voltage power cables within data center facilities. Furthermore, control cables are vital for managing equipment operations, HVAC systems, and automated monitoring within these high-density environments. In locations emphasizing green energy integration—like Ireland—underground armored power cables are gaining traction to support safe, reliable, and concealed power delivery networks.

INCREASING NEED FOR ELECTRICITY CONSUMPTION WITH GROWING AI AND CRYPTOCURRENCY DYNAMICS

The rapid expansion of **Artificial Intelligence (AI) technologies and cryptocurrency operations** is significantly amplifying global electricity consumption, necessitating critical upgrades in energy infrastructure. AI-powered platforms, including large-scale language models like ChatGPT, demand intensive computational resources. A single AI-driven query can consume up to 2.9 Wh of electricity—almost ten times the energy of a standard internet search. With NVIDIA leading a surge in AI server deployments, energy consumption from AI workloads is forecasted to grow more than tenfold, potentially surpassing 73 TWh annually by 2026.

Simultaneously, cryptocurrency mining remains a major power consumer. While Ethereum has reduced its energy intensity through a shift to proof-of-stake, Bitcoin and other coins still contribute to high electricity demand. Mining activities consumed around 130 TWh in 2023—comparable to the **Netherlands' annual usage—and are expected to exceed 160 TWh by 2026.**

To support these high loads, utilities and infrastructure developers will need to reinforce power generation and upgrade both transmission and distribution networks. This shift is expected to fuel strong demand for **medium- and high-voltage power cables** for electricity transmission to data centres and crypto farms, **low-voltage cables** for internal facility wiring, and **control cables** for precise monitoring and automation. Moreover, **specialty cables** with thermal resistance and shielding properties will be crucial in environments with high-density electronic hardware. In off-grid or hybrid renewable power sites used for sustainable mining, **aerial bundled (AB) cables** will also see increased deployment, helping connect

remote generation sources to processing units safely and efficiently.

5.2. Global Power Generation & Consumption Analysis

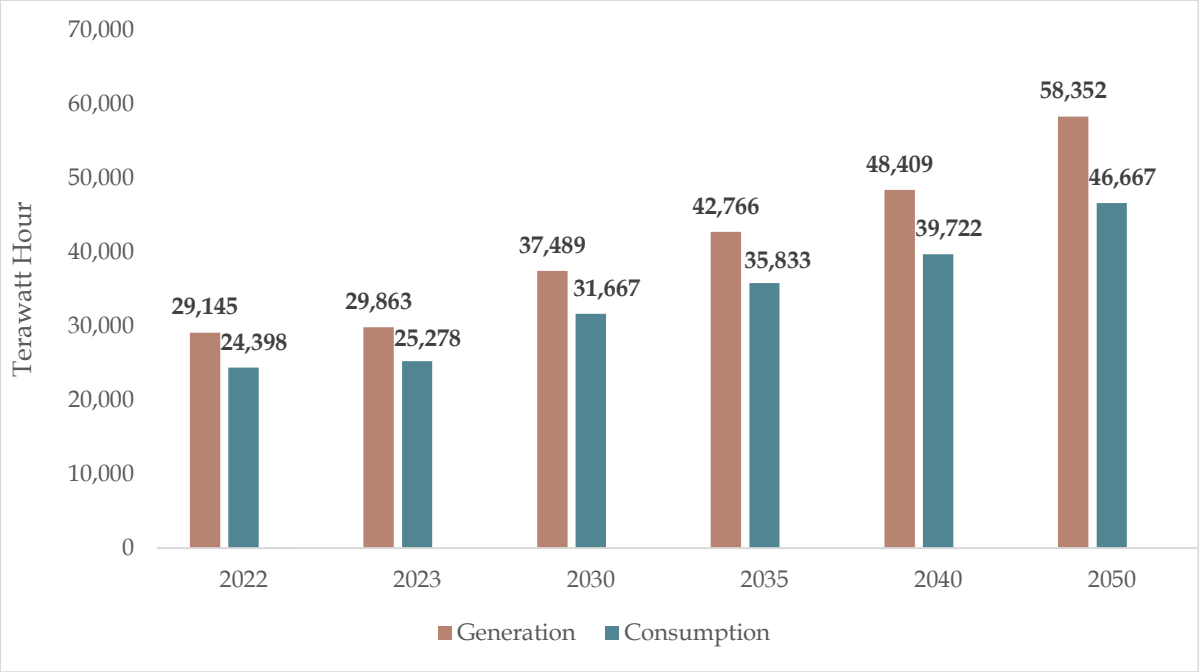
Global **electricity generation and consumption are witnessing a steady surge**, driven by technological advancements, industrialization, and sustainability goals. In 2022, global gross electricity generation reached 29,145 TWh, exceeding consumption of 24,398.4 TWh. This upward trend is expected to continue, with electricity generation projected to hit 58,352 TWh by 2050, alongside consumption reaching 46,667.7 TWh.

Renewable energy sources, including **wind and solar power, are at the forefront of electricity generation** as countries transition toward greener energy systems to combat climate change. Solar power is particularly in demand due to its scalability and decreasing installation costs. The shift toward renewable energy is reshaping generation dynamics, requiring the integration of decentralized and intermittent energy sources into the grid, adding pressure on transmission and distribution systems. This evolution necessitates **significant investments in high-voltage cables for long-distance transmission and medium to low-voltage cables for localized distribution**.

Governments globally are also modernizing their infrastructure, especially in urban areas, where smart city initiatives are driving the replacement of overhead conductors with underground cables for better reliability, safety, and aesthetics. **Underground cabling is becoming a cornerstone** of modern energy infrastructure, catering to growing urban populations and evolving demands for efficient energy transmission. Additionally, the rise of offshore wind farms has amplified the demand for submarine cables, further diversifying market needs.

As generation and consumption grow hand in hand, the need for robust and efficient transmission and distribution infrastructure is more critical than ever. High-voltage systems are pivotal for inter-regional connections, while urban development emphasizes medium-voltage underground solutions. This dynamic is creating unprecedented demand for specialized cables, underscoring the importance of innovation and sustainability in the evolving global power landscape.

Figure 5-2: Global Electricity Generation Vs Consumption (in TWh), 2022-2050



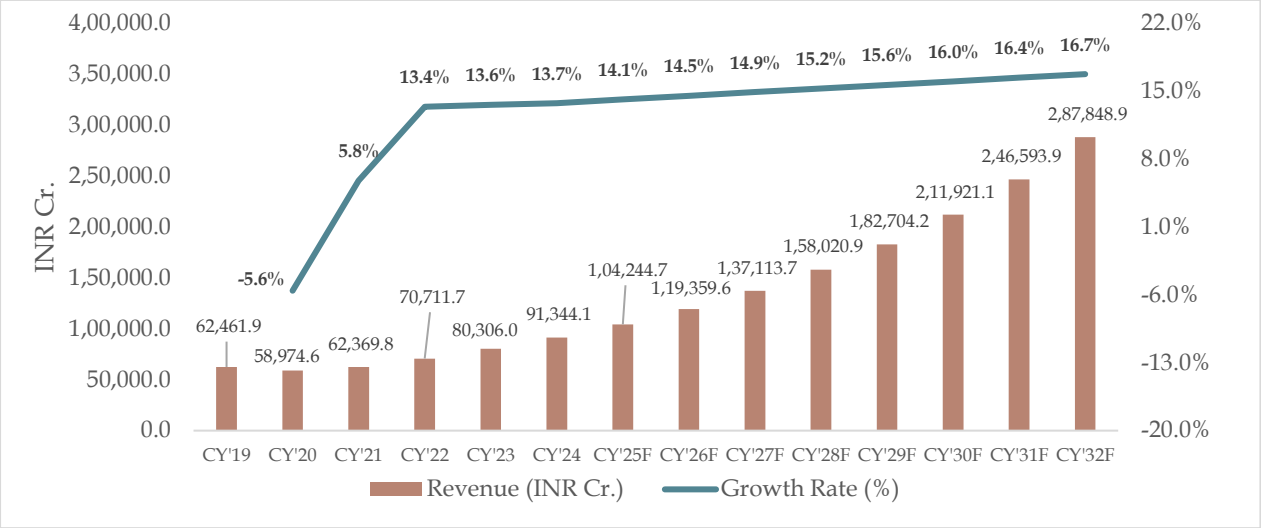
Source: International Energy Agency- World Energy Outlook 2024
Note: Generation and Consumption from year 2030 is estimated based on the State Policies

6. India Cables Market Overview and Size, CY'19 – CY'24 – CY'30F

6.1. Market Size of India Cables Industry, CY'19 – CY'24 – CY'30F

The **Indian cable market has witnessed steady growth in the last few years,** driven by rapid industrialization, urbanization, and government-driven infrastructure initiatives. From CY'19 to CY'24, the market saw a consistent upward trajectory in terms of revenue, from **INR 62,461.9 Cr. in CY'19 to INR 91,344.1 Cr. in CY'24.** Over the period, the compound annual growth rate **(CAGR) has been approximately 10.0%,** reflecting a robust recovery following initial setbacks due to the pandemic.

Figure 6-1: India Cables Market Size on the Basis of Revenue in INR Cr., and Growth Rate in (%), CY'19 - CY'24 – CY'32F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY represents Calendar Year (January-December)

Market Definition: The India Cables Market refers to the total market value of cables sold in India of different types, including Ab cables, power, control, instrumentation and data & communication cables. This market size, valued in INR Cr., includes cables manufactured within India as well as imported cables. It addresses key sectors like construction, energy, transportation, and industrial applications, where cables are essential for power distribution, data transmission, and control functions. The market size is derived from both sales and production figures within the country.

In India, Low Voltage cable dominates the market demand driven by the growing urbanization, infrastructure development, and industrial expansion activities. The increasing investments in residential, commercial and renewable energy sectors supported by government induced initiatives and programs **such as Pradhan Mantri Surya Ghar: Muft Bijli Yojana (PMSG), National Electricity Plan (NEP), Revamped Distribution Sector Scheme (RDSS) and state-level substation capacity expansion programs** are immensely contributing to rising cable consumption in low voltage segment. Additionally, **medium voltage cables (above 1.1 kV and up to 33 kV) have seen increased uptake, especially for feeder lines connecting substations and in utility-scale electrification efforts.** These trends underscore the growing relevance of power and control cables in supporting grid reliability, load balancing, and last-mile connectivity across both urban and rural geographies.

In recent years, the rise of renewable energy projects, particularly in solar and wind sectors, has led to an uptick in the demand for medium voltage cables and **high voltage cables (above 33 kV),** necessary for energy transmission from power plants to the national grid. The government's renewable energy targets and its **National Smart Grid Mission** have further catalyzed this demand, highlighting the growing need for reliable transmission infrastructure.

As India progresses towards becoming a global manufacturing hub and achieving energy security, the demand for various cable types is expected to experience an accelerated surge. A few key driving factors include:

- **Commercial Infrastructure Development:** With ongoing and future infrastructure projects under schemes such as Bharatmala Pariyojana, Sagarmala, and the National Infrastructure Pipeline, the demand for cables will increase to support transportation, ports, railways, and smart cities. The expansion of digital

infrastructure also plays a significant role in spurring the demand for specialized cables in the country.

- **Power and Renewable Energy Expansion**: India's ambitious renewable energy goals, such as generating 500 GW of renewable energy by 2030, along with electrification plans under schemes like **RDSS** and MNRE Rooftop Schemes, etc., will significantly boost demand for **medium** and **high voltage cables**. These cables are critical for connecting renewable energy projects like solar farms and wind power stations to the national grid, as well as for supporting the expansion of electricity distribution networks in rural areas.

- **Telecommunication & Data Center Infrastructure Expansion:** With India's increasing digital penetration and data consumption, the demand for supportive communication infrastructure is rising. Thus, the Indian government has launched the BharatNet Project to expand high-speed broadband to rural and remote areas. As 5G technology is being rolled out across the country, the demand for specialized cables, including fiber optic cables, is expected to rise significantly to support the high-speed, low-latency communication required for 5G networks. Additionally, the growing need for data centers, both for cloud computing and other digital services, will further increase the demand for telecom infrastructure and, by extension, the cables that enable these networks.

- **Booming Urbanization and Development of Smart Cities:** Rising urbanization and the development of smart cities in India are key drivers of infrastructure growth. As more people migrate to urban areas, the demand for advanced infrastructure solutions, such as smart transportation systems, energy-efficient buildings, and intelligent utility management, has escalated. The government's Smart Cities Mission aims to create sustainable, technology-driven urban spaces,

enhancing the quality of life for citizens. This rapid urban expansion requires sophisticated cable systems to support the digital and electrical networks that power smart technologies, from smart grids to high-speed communication networks, thus fueling the demand for specialized cables in urban areas.

- **Growth in Electric Mobility Infrastructure:** The rise of electric mobility in India is significantly boosting the cable business, driven by government initiatives like the National Electric Mobility Mission Plan (NEMMP) and the (Faster Adoption and Manufacturing of Electric Vehicles) FAME II scheme. These programs aim to promote electric vehicle (EV) adoption and build the necessary infrastructure, including EV charging stations. As the demand for electric vehicles grows, specialized cables, such as high-voltage charging cables and power distribution cables, are essential to support EV charging infrastructure. The expansion of this infrastructure creates a strong demand for advanced, reliable cables to ensure efficient and safe charging solutions across the country.

7. India Cables Market Segmentation, CY'24 & CY'30F

7.1. India Cables Market Segmentation By Type of Cable Voltage Range, CY'24 & CY'30F

The demand for low, medium, and high voltage cables in India is witnessing strong momentum, driven by rapid industrialization, infrastructure expansion, and a surge in power and grid-related investments by the government. **Low voltage cables (up to 1.1 kV) continue to dominate the market, accounting for 68.9% of total demand in CY'24.** The demand for these cables remain significant for residential and commercial buildings for powering devices & control systems, and a significant portion of the growth is attributed to public sector investments in power distribution infrastructure. Ongoing expansion and upgradation of transmission and distribution networks—especially under schemes such as **Revamped Distribution Sector Scheme (RDSS), and various state-level grid modernization programs—are generating consistent demand for low voltage power and control cables**. Additionally, the rapid commissioning of substations, both urban and rural, and integration of renewable energy sources like solar parks and wind farms into the grid are further boosting consumption of cables across all voltage ranges.

Low voltage cables are projected to sustain their leading market position, supported not just by real estate and commercial development, but also by robust government-led electrification projects and the scaling of substations and feeder lines. **By CY'30, the low voltage segment is expected to hold a 67.7% market share, growing at a CAGR of 14.7%**.

Medium voltage cables (Above 1.1 kV and up to 33 kV), accounting for 22.3% of the market in CY'24, are critical

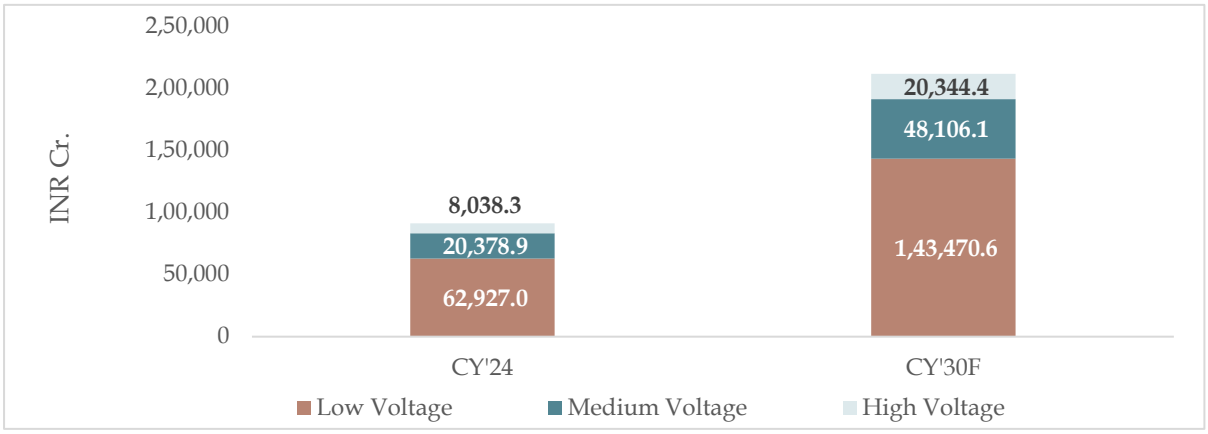
for power transmission, industrial use, and utility projects, such as wind and solar farms. These cables are essential for interconnecting substations, supporting the Revamped Distribution Sector Scheme (RDSS), and meeting the growing need for smart grid expansion. The medium voltage segment is **projected to increase to 22.7% by CY'30, with a CAGR of 15.4%**. This growth is **driven by the government's renewable energy targets,** such as achieving **500 GW by 2030**, and continued electrification initiatives for rural areas, and urbanization, which in turn is driving MV cables demand across newer substation interconnections.

The demand for **high voltage cables (above 33 kV), while smaller at 8.8% in CY'24**, is expected to grow substantially by CY'30, due to the expansion of long-distance power transmission networks. Projects like the **Green Energy Corridor,** which aims to evacuate power from renewable energy-rich areas, are pushing for greater use of high voltage cables. With grid modernization efforts under the **National Smart Grid Mission (NSGM)** and private-sector investments in ultra-high voltage transmission systems, high voltage cables will see an increase in demand**, projected to reach 9.6% by CY'30, with a CAGR of 16.7%.**

The overall cable market in India is on a strong growth trajectory, underpinned by **rapid industrialization, infrastructure development, and large-scale government investments in power and renewable energy projects**. While low voltage cables (up to 1.1 kV) continue to dominate the market in volume terms—**holding a 68.9% share in CY'24**—their growth is increasingly fueled by public sector initiatives such as **substation electrification, feeder line upgrades, and last-mile connectivity under schemes like RDSS.** At the same time, medium and high voltage cables are experiencing faster growth, driven by the need for robust transmission systems to support smart grids, utility-scale solar and wind installations, and inter-substation connectivity. With rising demand for **grid**

modernization and clean energy integration, the share of medium and high voltage segments is expected to expand steadily by CY'30, making them pivotal contributors to India's energy transformation and transmission infrastructure landscape.

Figure 7-1: India Cable Market Segmentation by Types of Cable Voltage Range on the Basis of Revenue in INR Cr., CY'24 & CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY represents Calendar Year (January-December)

Conductors play a vital role in the Medium Voltage (MV) and High Voltage (HV) market, contributing significantly to power transmission and distribution. While conductors are not considered part of the overall cable market, their inclusion would further enhance the market's value and attractiveness. This distinction allows for a more focused analysis of the cable market, showcasing the substantial potential and growth opportunities within the market.

INDIA LOW VOLTAGE CABLE MARKET, BY CABLE TYPE, CY'19 – CY'24 – CY'30F

The low voltage cable market in India is on a promising growth trajectory, driven by a surge in infrastructure development, industrial expansion, and increasing electricity demand. **As of CY'24, the market size stands at approximately INR 62,927.0 Cr., with projections for CY'30F reaching INR 143,470.6 Cr.**, reflecting a substantial

increase in demand. This growth is aligned with the country's ambitious infrastructure and industrialization plans.

The growing demand for low voltage cables is significantly driven by the **expansion of transmission and distribution networks in power grids**, both in rural and urban areas. As the infrastructure for power transmission and distribution evolves to meet the needs of expanding industrial, residential, and urban projects, low voltage cables play a crucial role in ensuring efficient and reliable electricity distribution. In addition to power cables, control cables are also experiencing strong demand across residential, industrial, and energy sectors.

The ongoing government initiative to install rooftop solar systems in 1 crore households by March 2027 further fuels the demand for power and control cables within the low voltage segment. While the **housing sector accounts for around 35.3% of the low voltage cable market in CY'24, valued at INR 22,213.2 Cr**, it is the broader infrastructure projects and the strengthening of power distribution networks that are the primary drivers. The increasing **urbanization in India is expected to push this market figure to INR 49,377.6 Cr by CY'30F**. This growth, spurred by industrial development, smart city projects, and renewable energy adoption, underscores the critical role of power and control cables in facilitating efficient transmission, distribution, and control systems across diverse sectors.

Table 7-1: India Total Capital Outlay by Ministry of New and Renewable Energy in INR Cr., FY'20 - FY'25

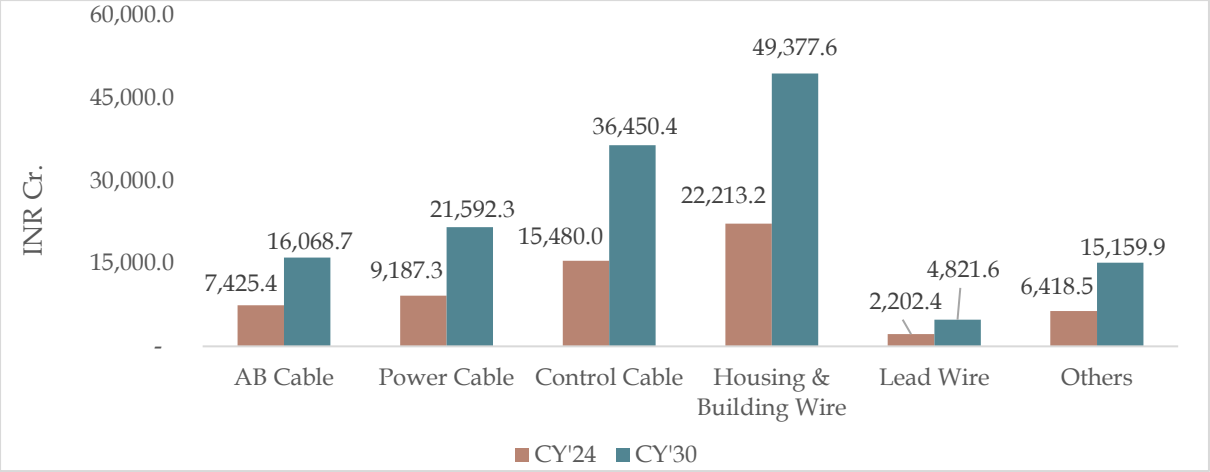
Projects	FY'20	FY'21	FY'22	FY'23	FY'24	FY'25	Total Capital Outlay (INR Cr.)
Solar Power	20,000	88,000	88,000	100,000	88,000	88,000	**472,000**
Wind Power	9,800	59,500 5	56,000	70,000	112,000	112,000	**419,300**
Bio Power	700	NA	NA	NA	7,000	7,000	**14,700**
Small Hydro Power	NA	3,500	NA	NA	10,000	10,000	**23,500**
Total	**30,500**	**151,000**	**144,000**	**170,000**	**217,000**	**217,000**	**929,500**

Source: National Infrastructure Pipeline Volume III A

Further, rising focus of central government towards renewable energy generation targets to support environment sustainability through programs like **National Green Hydrogen Mission (NGHM), PM Kusum, and Rooftop solar schemes**, are driving immense demand for reliable low voltage cables in India.

With increased urbanization, **given the focus on urban infrastructure and increase in employment opportunities in the urban areas,** infrastructure projects such as metro rail networks in cities such as Mumbai, Delhi, and Bangalore, are booming. **According to the Department of Economic Affairs, India,** Urbanization in the country has increased at an annual rate of ~2.4%, which is expected to increase in the near future. India's urbanization levels are estimated to improve to **~42% by 2030 from 34% in 2018.** Additionally, growing push for industrialization, the demand for low voltage cables is expected to grow substantially with a projected **CAGR of 14.7% by CY'30.**

Figure 7-2: India Low Voltage Cable Market Segmentation by Types of Cable on the Basis of Revenue in INR Cr., CY'24 & CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: Others include Flexibility & Specialty cables, Communication & Instrumentation Cables, Solar cables, Coaxial and Telephone cables
Note 2: F represents Forecasted figures
Note 3: CY represents Financial Year (January-December)

INDIA MEDIUM VOLTAGE CABLE MARKET, BY CABLE TYPE, CY'19 – CY'24 – CY'30F

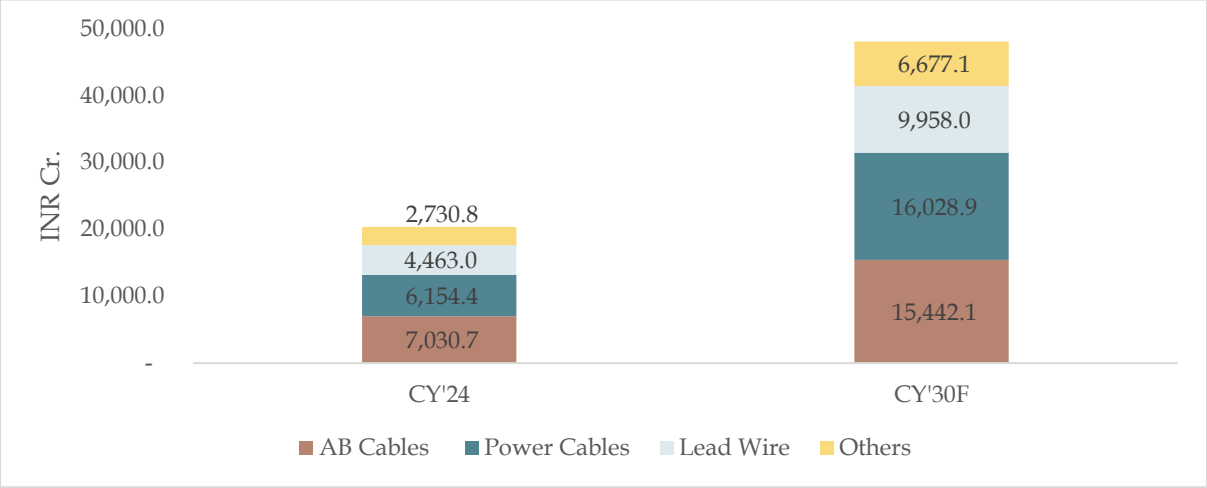
The medium voltage cable market in India is witnessing substantial growth, primarily fueled by the rapid expansion of power transmission and distribution networks across the country. **As of CY'24, the market stands at approximately INR 20,378.9 Cr., and is projected to grow to INR 48,106.1 Cr. by CY'30F, representing a robust CAGR of 15.4%.** This growth is underpinned by significant government-led initiatives to strengthen grid infrastructure and ensure reliable electricity supply across urban and rural regions.

Key market segments include AB cables, power cables, and solar cables. AB and power cables—critical for feeder lines, last-mile grid connectivity, and substation-level distribution—**are projected to see the highest growth of 14.0% and 17.3% respectively from CY'24 to CY'30F.** The market **of AB cables and Power cables** in medium voltage expanding from **INR 7,030.7 Cr. and INR 6,154.4 Cr. in CY'24 to INR 15,442.1 Cr. and INR 16,028.9 Cr. by CY'30F, respectively.** This surge is being driven by large-scale investments in sub-transmission systems and the ongoing upgradation of legacy distribution infrastructure.

Major government schemes such as the **Revamped Distribution Sector Scheme (RDSS)** and the **National Smart Grid Mission (NSGM)** are playing a pivotal role in modernizing India's electricity distribution architecture. These programs are focused on reducing AT&C losses, deploying advanced metering infrastructure, and integrating intelligent control systems for improved grid efficiency. At the transmission level, the rollout of the **Green Energy Corridor** and investments under the **National Electricity Plan (2023–2032)** are creating consistent demand for medium voltage cables, especially to support renewable energy evacuation and grid balancing.

Additionally, solar cables continue to gain traction due to increasing deployment of solar power plants under the **PM-KUSUM Scheme** and **National Solar Mission**, both of which promote solar adoption in agricultural and semi-urban grids. Despite short-term challenges such as the need for technological advancements in cable production and fluctuating raw material costs, the medium voltage cable market in India is poised for sustained expansion. The sector is strongly supported by government funding, industrial electrification, and the ongoing transformation of India's power grid to meet future energy demands efficiently.

Figure 7-3: India Medium Voltage Cable Market Segmentation by Types of Cable on the Basis of Revenue in INR Cr., CY'24 & CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: Others include Instrumentation cables, Telecommunication cables, Solar cables (of 1200V DC), Coaxial cables, and others
Note 2: F represents Forecasted figures
Note 3: CY represents Financial Year (January-December)

INDIA HIGH VOLTAGE CABLE MARKET, BY CABLE TYPE, CY'19 – CY'24 – CY'30F

The high voltage cable market in India is experiencing notable growth, driven by expanding power generation, transmission, and distribution networks, alongside the country's growing demand for reliable electricity. As of

CY'24, the market is valued at approximately INR 8,038.3 Cr., with projections for CY'30F reaching INR 20,344.4 Cr., indicating a growth rate of around **16.7%.** This growth is largely influenced by the increasing focus on upgrading the national power grid, the shift towards renewable energy sources, and the need for enhanced transmission infrastructure to support industrial and urban growth.

A key driver in the high voltage cable market is the **power cable segment, which is expected to grow from INR 6,310.1 Cr., in CY'24 to INR 16,580.7 Cr., by CY'30F.** The demand for high voltage power cables is closely tied to the expansion of power transmission networks, particularly as India focuses on modernizing its electricity infrastructure. Projects under government initiatives such as **the Power Grid Corporation of India's** transmission expansion plans are fueling the need for high voltage cables that ensure efficient long-distance power transmission.

The **Lead Wires segment, while smaller, also shows significant growth, projected to rise from INR 691.3 Cr., in CY'24 to INR 1,517.7 Cr., by CY'30F.** These cables are essential components in high voltage systems, and their increasing demand is driven by large-scale infrastructure projects, including the expansion of national transmission lines as they offer efficient transfer of multiple signals simultaneously, easy handling, and are cost-effective.

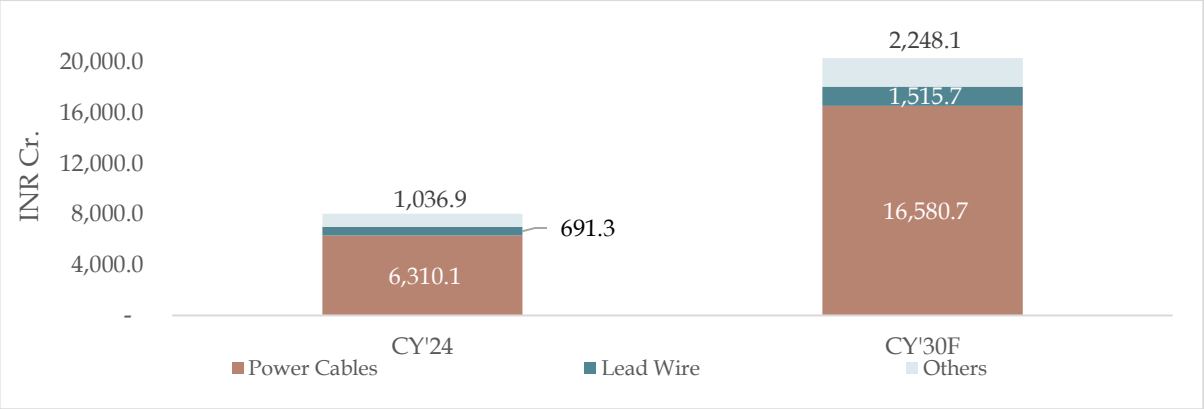
Other cable types, including Submarine cables, and Defense Cables**, are also experiencing a rise in demand, growing from INR 1,036.9 Cr. in CY'24 to INR 2,248.1 Cr., by CY'30F.** This growth is driven by the increasing adoption of renewable energy solutions, particularly solar power, which necessitates high voltage cables for connecting solar plants to the grid.

The demand for high voltage cables is also supported by large-scale infrastructure projects such as the ongoing development of smart cities, metro rail networks, and

industrial parks, which require robust power transmission systems. With the Indian government's focus on boosting energy efficiency, reducing transmission losses, and improving grid connectivity, the high voltage cable market is set for significant growth.

While challenges such as the high cost of raw materials and the technical complexities of high voltage installations exist, the long-term growth outlook remains positive. Investments in renewable energy, power transmission upgrades, and infrastructure projects across urban and rural India will continue to drive the demand for high voltage cables, making this market a key component of the country's energy future.

Figure 7-4: India High Voltage Cable Market Segmentation by Types of Cable on the Basis of Revenue in INR Cr., CY'24 & CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: Others include Submarine Cables and Defence Cables
Note 2: F represents Forecasted figures
Note 3: CY represents Financial Year (January-December)

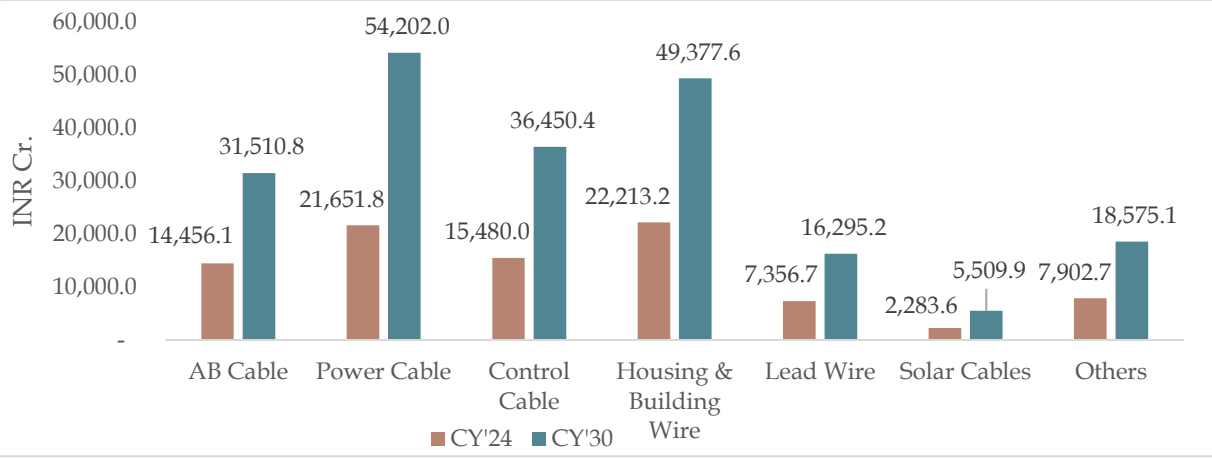
7.2. India Cables Market Segmentation By Cables Type, CY'24 & CY'30F

In the Indian cable industry, **housing/building wires dominate demand, holding a 24.6% share in CY'24**, with strong growth expected to continue, reaching 25.4% by CY'30. This is driven by rapid urbanization, the growth of smart cities, and increased residential and commercial

construction, requiring efficient, reliable electrical wiring solutions. **Power cables also show significant demand, accounting for 23.7% of the market in CY'24,** and are **projected to grow to 25.5% by CY'30,** fueled by the expansion of power generation and transmission infrastructure, particularly with renewable energy projects. While demand for **AB cables stood at about 15.8% share in CY'24,** and will continue to grow at a notable **CAGR of 13.9%** with respect to the growing focus high reliability cables for reducing power losses.

Control Cables make up 16.9% of the market, reflecting their essential role in industrial automation and process control. Further, **Lead Wires holds a marginal share of 8.1% respectively in CY'24 and is projected to grow at a CAGR 14.2%.** The others category, which includes **Flexibility, Specialty Cables**, **Coaxial and others represents 8.7%** of the market and is expected to grow steadily **reaching 8.8% market share by CY'30,** driven by increasing demand for these cables in sectors such as manufacturing, telecom, and transportation.

Figure 7-5: India Cable Market Segmentation by Types of Cable on the Basis of Revenue in INR Cr., CY'24 & CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: Others include Flexibility, Specialty cables, Communication, Instrumentation Cables, and others
Note 2: F represents Forecasted figures
Note 3: CY represents Calendar Year (January-December)

The demand dynamics and detailed growth potential for each of the cable types are as follows:

AERIAL BUNCH CABLES

AB cables are **primarily used in overhead power distribution systems** due to their insulation, safety features, and ability to withstand harsh environmental conditions. In India, the demand for AB cables has seen significant growth due to government programs like **Revamped Distribution Sector scheme (RDSS), Pradhan Mantri Surya Ghar: Muft Bijli Yojana (PMSG) aimed at rural electrification**. With a growing emphasis on improving the reliability of electricity distribution in rural and urban areas, AB cables are preferred over traditional bare conductors for their reduced energy losses and safety advantages.

The **urbanization trend and increased electrification efforts in tier-2 and tier-3 cities** further bolster the demand for AB cables. Presently, **India's market for AB cables is valued at approximately INR 14,456.1 Cr., in CY'24 and is expected to grow at a CAGR of 13.9% in the next five years reaching INR 31.510.8 Cr in CY'30.** This demand is fueled by increasing investments in smart grid projects and transmission and distribution (T&D) network upgrades.

Future **demand for AB cables will also be supported by India's renewable energy goals**, as wind and solar power plants require robust overhead distribution systems. Private investments in T&D infrastructure and initiatives by state electricity boards to reduce distribution losses will sustain demand. However, challenges such as the high cost of installation compared to bare conductors might restrain growth of AB cables in cost-sensitive areas.

POWER CABLES

Power cables are used to transmit electricity over long distances, and are indispensable for industrial, commercial, and residential applications. In India, the demand for power cables has surged due to rapid industrialization, urbanization, and increasing electricity consumption. **Industries such as steel, cement, and oil & gas, along with metro rail and real estate projects**, drive the need for high-capacity power cables.

Currently, **India's power cable market is valued at around INR 21,651.8 Cr., and projected to grow at a CAGR of 16.5% by CY'30.** Government schemes such as **Integrated Power Development Scheme (IPDS)** have significantly boosted demand for power cables in rural and urban areas. Moreover, investments in renewable energy projects (targeting 500 GW by 2030), nuclear energy development projects, and Natural gas projects are creating new opportunities for specialized high-voltage cables.

The future outlook is robust, with **increasing smart city projects, development of data centers, and expansion of EV charging infrastructure.** These developments are foreseen to drive growth of power cables in India in the coming years.

CONTROL CABLES

Control cables are essential for transmitting signals and controlling equipment in industrial settings such as power plants, oil refineries, and manufacturing units. The current **demand for control cables in India is estimated at INR 15,480.0 CR., CY'24,** with growth driven by the expanding industrial sector and infrastructure development. Industries like automotive, cement, and chemicals are major consumers of these cables.

Market Size of Industrial Automation in India is expected to growth at a CAGR of 11.7% by FY28.

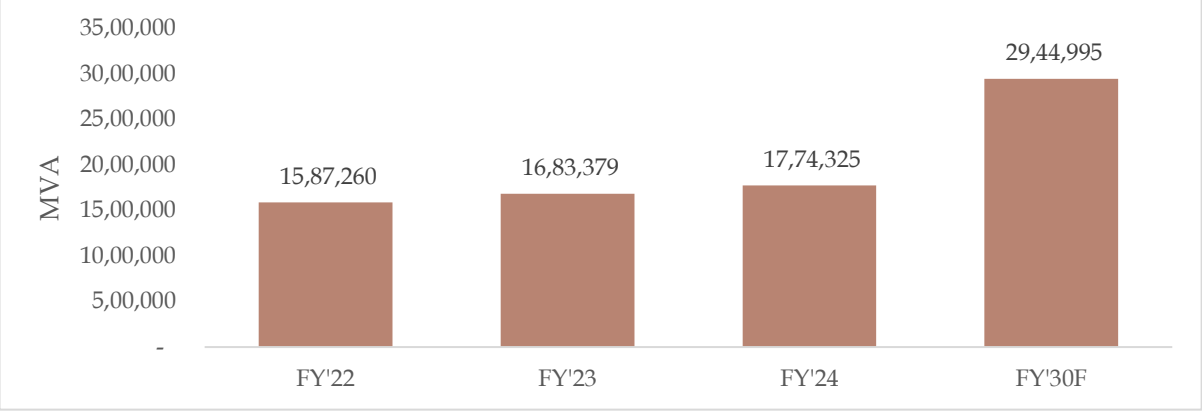
INR 1.1 Trillion (FY'23)

INR 2.2 Trillion (FY'28F)

With **India's manufacturing sector projected to grow to USD 1 trillion by 2030** under **initiatives like Make in India and Production-Linked Incentive (PLI) schemes**, the demand for control cables is set to rise. Automation in industrial processes and the rise of Industry 4.0 will further contribute to increased adoption as the **market is foreseen to grow at a CAGR of 15.3% to reach INR 36,450.4 Cr. by CY'30.** With the AI & analytics technology implementation rate of 54%, Indian companies are revolutionizing their operational methodologies using machine sensors, cloud technology, robotics and automation. As the working of these advanced technologies require uninterrupted supply of electricity, the demand for specialized power cables is foreseen to rise in the country during CY'24-CY'30.

Demand for Control Cables at Sub-Stations: The demand for control cables in power substations across India is set to increase substantially due to the upcoming substation capacity addition and the growing requirement for new substations.

Figure 7-6: India Transmission & Distribution Substation Capacity in MVA, FY'22-FY'24 & FY'30F



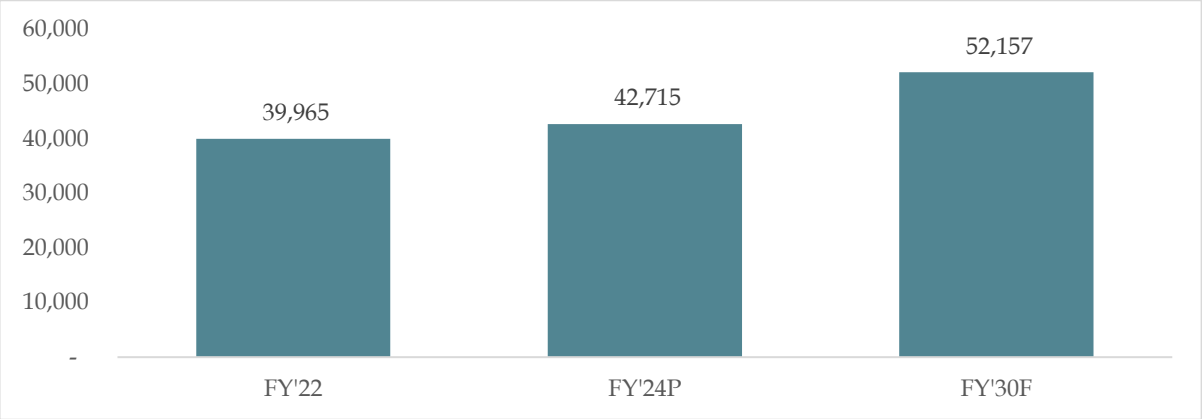
Source: CEA, The National Electricity Plan – Volume II
Note: F refers to Forecasted Number

Control cables play a critical role in substations, especially in functions like **voltage regulation, protection, and automation.** These cables are essential in transmitting control signals between various substation equipment

during step-up or step-down processes, ensuring safe and efficient power flow. They are used in protection circuits, automation systems, metering units, and remote-control applications. As substations expand to fulfill the surging electricity requirements in India and modernize with advanced technologies, the need for high-quality, durable cables is foreseen to rise in India.

India's transmission and distribution substation capacity is projected to witness a substantial increase, **rising from 1,774,325 MVA in FY'24 to a forecasted 2,944,995 MVA by FY'30.** This **nearly 85% growth reflects the government's strong emphasis on grid modernization**, last-mile connectivity, and integration of renewable energy sources. The steady **year-on-year capacity addition underscores** the increasing **demand for Power and Control Cables**, particularly in the medium and high voltage segments, to support substation expansion and load handling requirements across the country.

Figure 7-7: India Sub-Transmission Substation Count, FY'22, FY'24P & FY'30F



Source: CEA, The National Electricity Plan – Volume II & Ken Research Analysis
Note 1: P refers to Provisional Number
Note 2: F refers to Forecasted Number

India's sub-transmission substation network expanded from **39,965 in FY'22 to 42,715 in FY'24. This count is further expected to grow recording 52,157 substations count by FY'30**, reflecting the country's strategic focus on strengthening regional **power distribution and improving grid efficiency.** This consistent growth highlights the push

towards **greater electrification and load balancing,** especially across underserved and emerging areas. As a result, the rollout of new substations will continue to drive the need for **Aerial Bunch (AB) Cables**, as well as **Power and Control Cables**, supporting the backbone of India's evolving transmission infrastructure.

However, the presented data only accounts for the **sub-transmission substations.** The total substation count, including both transmission and distribution networks, would be considerably higher with Transmission networks, consisting of high-voltage substations, and distribution networks, including local substations serving specific areas, significantly contributing to the overall infrastructure.

HOUSING/BUILDING WIRES

The demand for housing/building wires remains critical for residential and commercial electrification. The demand is primarily driven by India's growing real estate sector, which is expected to reach USD 1 trillion by 2030. With urbanization and rising disposable incomes, the need for safe and efficient electrical wiring systems has grown significantly.

Currently, **this segment accounts for nearly 24.3% (INR 22,213.2 Cr.) of the Indian wires and cables market.** Government **schemes such as Pradhan Mantri Awas Yojana (aiming to build affordable housing) and the Smart Cities Mission** are boosting demand for housing & building wires. Additionally, a shift towards fire-resistant and eco-friendly wires is shaping revenue growth in this segment.

Future demand for housing and building wires is expected to be driven by the growing **replacement of traditional wiring with energy-efficient wiring systems,** driven by sustainability goals and stringent building codes.

However, the segment will continue to face competition for several unorganized players due to lack of stringent measures in the segment.

LEAD WIRE

India's lead wire market is expanding rapidly, driven by their indispensable role in modern electrical and electronic systems. Lead wires, are essential in applications demanding **high current and voltage transmission**. Their flexibility, temperature resistance, and customizability make them critical in varied sectors such as **battery systems, power supplies, motors, appliances, audio systems, automotive components, medical equipment, and aerospace systems.**

As India accelerates electrification efforts, the **demand for reliable and efficient wiring** has increased significantly. Lead wires are particularly favored for their ability to withstand high stress, offer long-lasting performance, and ensure safety through insulation. Additionally, the **proliferation of consumer electronics**, industrial automation, electric vehicles, and smart appliances has fueled the need for quality internal wiring components. Government programs like "Make in India" and the PLI schemes have further incentivized local production and electronics manufacturing, contributing to higher lead wire consumption.

Moreover, rapid digitalization and infrastructure growth have increased the use of electronic control systems and power-intensive machinery, where durable lead wiring is crucial. As a result, India's lead wire market, valued at **INR 7,356.7 Cr in CY'24**, is projected to more than double to **INR 16,295.2 Cr by CY'30**, growing at a strong **CAGR of 14.2%.** This growth underscores the rising importance of lead wires as foundational components in India's expanding technological and industrial landscape.

SOLAR CABLES

The India Solar Cables market is projected to grow significantly from **INR 2,283.6 Cr. in CY'24 to INR 5,509.9 Cr. by CY'30F.** This growth will be primarily driven by the rapid expansion of solar power installations across the country, as India accelerates its renewable energy initiatives. Demand for **solar cables will be particularly strong in the medium and high-voltage segments**, as both utility-scale solar projects and rooftop solar installations continue to expand. High-voltage cables are essential for connecting solar power plants to the grid, while medium-voltage cables will be used for the distribution of solar-generated electricity.

The key factors driving this demand include India's ambitious targets for renewable energy, such as the goal of achieving 500 GW of non-fossil fuel capacity by 2030. Government policies and incentives, such as the **National Solar Mission,** will further encourage solar power adoption. Additionally, the growing awareness of environmental sustainability and the need to reduce carbon emissions will continue to push the use of solar energy. Technological advancements in solar infrastructure and the push for energy security will also contribute to the growing need for high-quality solar cables in the coming years.

OTHERS INCLUDING FLEXIBILITY & SPECIALTY CABLES, COMMUNICATION & INSTRUMENTATION COAXIAL CABLES TELEPHONE CABLES, AMONG OTHERS

Cables including flexibility & specialty cables, communication & instrumentation coaxial cables, telephone cables and others is expected to grow significantly from **INR 7,902.7 Cr. in CY'24 to INR 18,575.1 Cr. by CY'30F**. This growth will be primarily driven by the

increasing demand for communication, data transmission, and connectivity across various industries.

The demand for other cables will be prominent in the low and medium-voltage segments, with **specific demand in telecommunications, broadcasting, and residential sectors.** Coaxial cables, which are commonly used for television signal transmission and internet services, will see growth due to the rising demand for **high-speed broadband and cable TV services**, driven by the increasing internet penetration in urban and rural areas. Telephone cables will remain crucial for voice communication, especially in rural regions.

7.3. India Cables Market Segmentation By End Users, CY'24 & CY'30F

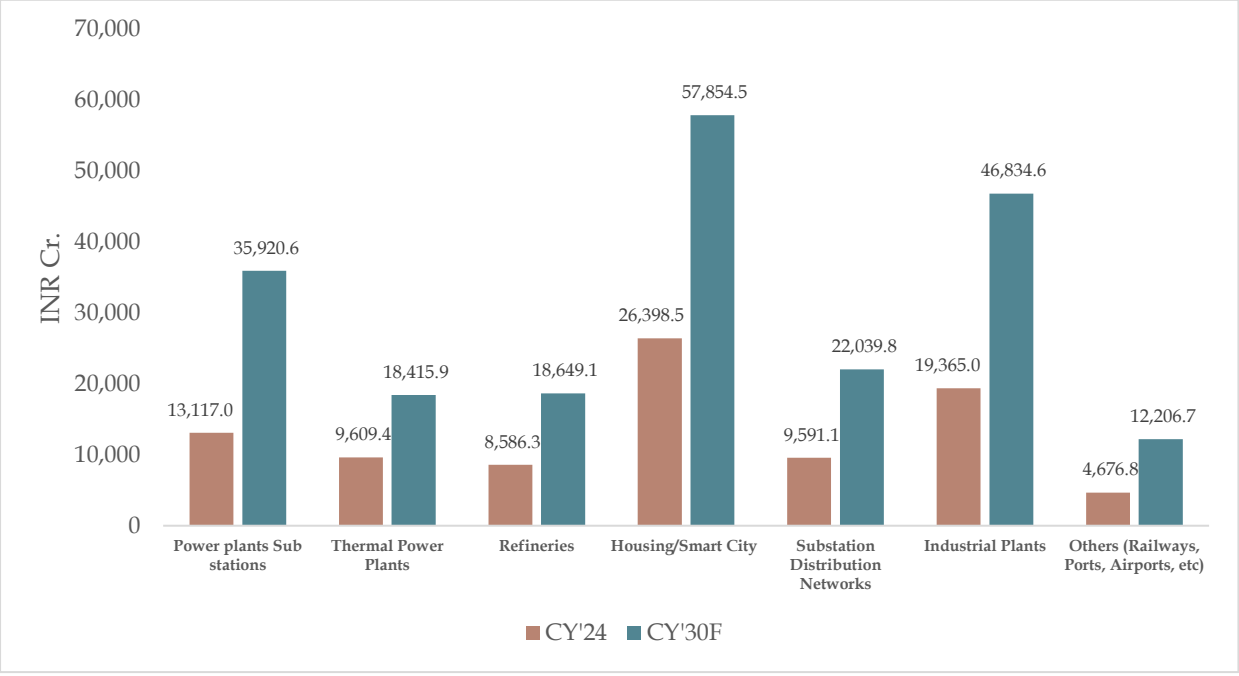
In India, the demand for cables is strongly driven by key sectors such as Housing/Smart Cities, industrial plants, and power generation, with government initiatives playing a crucial role in shaping this growth. The **Housing/Smart City sector, which accounted for 28.9% of the market in CY'24**, is set to expand further, reaching INR 57,854.5 Cr. by CY'30. This growth is fueled by government projects like the **Smart Cities Mission**, aimed at creating sustainable and technologically advanced urban spaces. These initiatives require reliable cabling solutions for smart grids, energy-efficient buildings, and digital infrastructure, boosting demand for high-quality cables.

The **industrial plant sector, which includes manufacturing facilities, made up 21.9% of the market in CY'24,** is projected to see continued expansion, particularly due to schemes like **Make in India and the National Manufacturing Policy**. As India enhances its manufacturing capabilities and automates production processes, the need for durable, high-performance cables for power distribution, communication, and automation in industrial facilities will grow. While substation

distribution networks reached INR 19,365.0 Cr. Market in CY'24, however with the continuous expansion of distribution substation across rural and urban India is foreseen to further boom the revenue from this segment reaching INR 46,834.6 Cr by CY'30.

Besides, the **power plants and substations sector, responsible for 14.4% of the market in CY'24**, is expected to increase its share to 17.0% by CY'30. This is driven by the government's push for energy security through initiatives like **National Hydrogen Mission, and the National Solar Mission**, which promote renewable energy expansion and the development of new power plants. These projects require robust cables for high-voltage transmission and distribution.

Figure 7-8: India Cable Market Segmentation by End Users on the Basis of Revenues in INR Cr., CY'24 & CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note 1: F represents Forecasted figures
Note 2: CY represents Calendar Year (January-December)

While the **thermal power plants and refinery** sectors have smaller shares, they remain essential to India's energy

infrastructure, with demand for specialized cables for high-temperature and hazardous environments. Additionally, the **Bharatmala Pariyojana** and **Sagarmala Project** for infrastructure development in roads, railways, ports, and airports will drive cable demand in these sectors as well.

Following is the detailed explanation of key factors shaping the demand dynamics for cables across the end-user's segment:

EXPANSION OF ENERGY & UTILITIES INDUSTRY IS DRIVING CABLE DEMAND IN INDIA

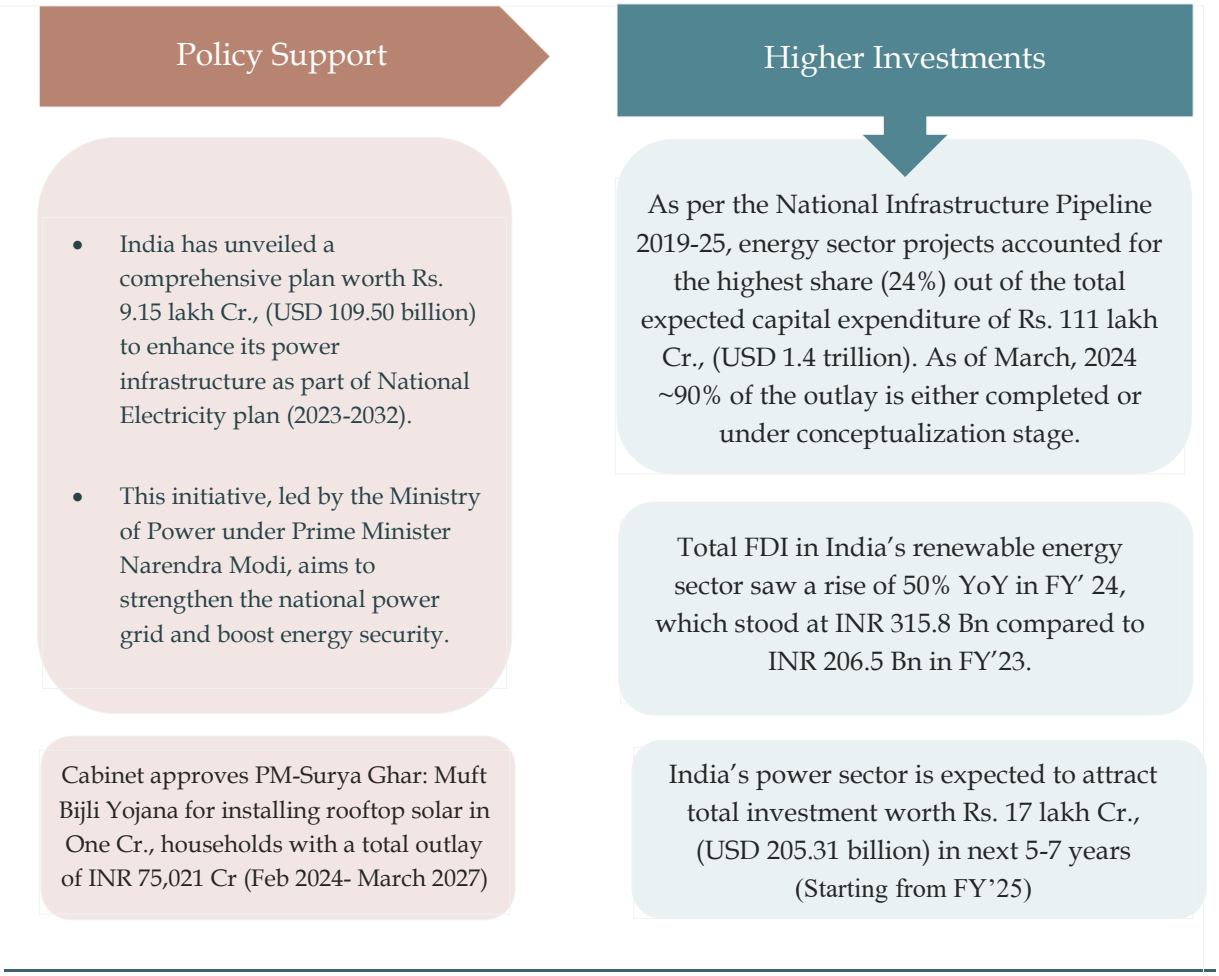
India's power and utilities sector plays a pivotal role in driving the nation's industrial growth, urbanization, and energy transition. The sector includes conventional power generation, renewable energy, utilities infrastructure, and decentralized energy systems. With increasing electrification, infrastructure expansion, and a surge in renewable energy installations, the demand for various types of cables is rising exponentially.

India's total installed power capacity stood at approximately 442 GW as of May 2024, with renewable energy contributing about 190 GW, comprising solar, wind, hydro, and other sources. The government aims to achieve 500 GW of non-fossil fuel capacity by 2030, with a significant push toward renewable energy.

Additionally, NTPC, a major player in coal-based generation, aims to achieve **30% of its capacity from non-fossil fuels and 28% from renewable energy**. This, shift towards renewable is creating a trend in the cable industry requiring solar and other specialized cables to support renewable power plants and other related infrastructure. Furthermore, electricity consumption in India is expected to grow at a CAGR of 5-6% over the next decade due to urbanization, industrial growth, and the electrification of transport and agriculture. As urbanization increases,

underground cables are becoming the preferred choice for reducing the visual and environmental impact of overhead lines.

Figure 7-9: India Power Sector Overview covering Policy Support and Investments



Source: IBEF, Niti Aayog, & Ken Research Analysis

Coal: India's coal sector remains a critical pillar of the nation's energy and industrial needs. In the FY'23, total coal production was 893.2 million tons (MT), which reached approximately 997.2 MT in FY'24. The lion's share of this production comes from Coal India Limited (CIL), which produced 773.6 MT in FY'24. Other key contributors include Singareni Collieries Company Limited (SCCL) with 70.0 MT in FY'24, and increasing contributions from captive coal producers, which reached 153.6 MT in FY'24. With the rising coal production, the capacity of India for

generating coal -based electricity have also increased from 217.6 in FY'24 to 221.8 in FY'25.

The growing dominance of the coal sector in India has a direct impact on the demand for cables. Coal mining, transportation, and coal-based power generation require extensive electrical infrastructure. Cables are integral to these systems, particularly for power transmission, control systems, and automation in coal plants and mines. As coal production and consumption continue to rise to support the **Ministry of Coal target of producing 1.5 billion tons of coal by FY'30,** the demand for specialized cables, including high-voltage and fire-resistant cables, is expected to grow significantly.

Additionally, the expansion of coal-based power plants and infrastructure projects further drives the need for robust cable solutions. For instance, Coal India Limited (CIL) has planned to develop about 36 new coal projects by 2030, The Singareni Collieries Company Limited (SCCL) has planned to open 7 new coal mines by 2030, and NLC India Limited (NLCIL) has planned to open 2 new coal mines during the same period. These developments in coal sector is set to benefit the cable industry creating sustained growth trajectory in the coming years.

Table 7-2: India Production of Raw Coal by Company in (Million Tons), FY'19-FY24P

Company	FY'19	FY'20	FY'22	FY'23	FY'24P
Coal India Limited (CIL)	602.1	592.2	622.6	703.2	773.64
Singareni Collieries Company Limited (SCCL)	64.0	50.6	63.0	67.1	70.02
Others/Captive	64.7	69.29	90.6	122.8	153.57
Total	**730.9**	**716.1**	**778.2**	**893.2**	**997.23**

Source: Ministry of Coal, India
Note: P in FY'24P refers to Provisional Number

Wind Power: India's wind power sector has grown significantly, with an **installed capacity of over 50.0 GW as of FY'25**, contributing substantially to the nation's renewable energy goals. The government's ambitious

target of achieving **140 GW of wind energy by 2030**, supported by initiatives like the **National Offshore Wind Energy Policy and the Green Energy Corridor**, highlights a robust pipeline of upcoming projects. This surge in capacity will create substantial demand for advanced cabling solutions, including medium and high-voltage cables for power transmission and low-voltage cables for internal turbine connectivity. Additionally, the aging infrastructure of existing wind farms, many of which were commissioned over a decade ago, is likely to drive replacement demand for durable and efficient cable systems.

In the upcoming years, cable demand is expected to surge due to **major offshore wind projects across Gujarat and Tamil Nadu coasts**. These projects require specialized submarine cables for power evacuation and connectivity to onshore grids. Furthermore, **schemes such as the PM-KUSUM program, a**imed at increasing decentralized renewable energy production, will drive additional cabling needs in hybrid wind-solar projects. With the wind power sector pivoting towards digitalization and smart grid integration, demand for fiber-optic and sensor-enabled cables is also poised to rise, ensuring efficient monitoring and operation of wind farms. The sustained growth in wind energy capacity underscores a promising future for cable deployment in India's renewable energy landscape.

Solar Power: As of FY'25, India has rapidly advanced its **solar energy capacity, reaching over 105.7 GW, with ambitious plans to reach 500 GW of non-fossil fuel energy by 2030,** including large-scale solar projects. These developments are stimulating an increased demand for high-quality, durable cables that can withstand the harsh environmental conditions and large-scale power generation systems.

The upcoming solar power projects, including large-scale solar parks and rooftop solar initiatives, are expected to

further boost cable demand. Projects such as the **Rewa Ultra Mega Solar Park (750 MW) and the Pavagada Solar Park (2 GW)** are already contributing to this demand. Additionally, government schemes like the "**PM-KUSUM" (Pradhan Mantri Kisan Urja Suraksha Evam Utthaan Mahabhiyan),** which encourages solar installations in rural areas, will create substantial need for cables, primarily for power transmission and interconnections between solar panels and the grid.

Further, India's growing commitment to sustainable energy will continue to drive the demand for solar cables, especially with the **government's push for 100 GW of rooftop solar capacity** and the increased integration of solar energy into national grids. This will further boost the market for cables that are resistant to heat, UV rays, and moisture. With more projects, both public and private, expected to come online, the cable industry will experience consistent growth.

Hydro Power: The demand for cables in India's hydro power plants is poised to grow significantly in the coming years. Currently, India has an extensive network of operational hydro power plants, contributing a considerable share to the country's renewable energy capacity. With the government's focus on increasing renewable energy production, several hydro power projects are in the pipeline. Upcoming large-scale hydro projects, such as the **2,000 MW Dibang Multipurpose Project and the 1,000 MW Pakal Dul Hydro Electric Project,** are expected to require vast quantities of high-performance cables for power transmission and grid integration. These projects, along with the push for revitalizing existing plants, will drive demand for specialized cables that can withstand high voltage and extreme environmental conditions.

Looking to the future, the cable demand for hydro power plants in India is set to rise as the country continues to harness its vast hydroelectric potential. With government

initiatives such as the **National Hydropower Energy Policy and the Renewable Energy Development Program**, which aim to bolster hydro capacity, the demand for cables will escalate to meet the growing infrastructure needs. Thus, the **expansion of the hydroelectric sector combined with ongoing modernization of grid systems** will create a steady demand for a variety of cable types, including medium to high-voltage cables, control cables, and specialized cables for undersea transmission. This trend will significantly contribute to the growth of the cable industry, as both public and private sectors ramp up efforts to meet renewable energy targets

Decentralized Energy systems: Decentralized plants in India, primarily focusing on renewable energy, have seen significant growth, with numerous small-scale power generation units being set up across the country. These plants, often leveraging solar, wind, or biomass technologies, are becoming integral to India's energy transition strategy, reducing dependency on centralized grids and improving energy access. As more decentralized plants are planned, there is an increasing demand for reliable and high-performance cables to facilitate power distribution and connections. These plants require specialized cables for electrical connectivity, instrumentation, and data transmission, all of which are essential for smooth operations.

In the coming years, demand for cables in decentralized plants is expected to rise sharply. Upcoming projects such as the government's **National Bioenergy Programme, the Solar Park Scheme,** and regional renewable energy initiatives are expected to contribute significantly to this trend. With the government's push towards energy diversification and sustainability, investments in these decentralized systems will continue to increase, directly affecting the cable industry. Additionally, state-level schemes supporting clean energy projects and the demand for electric vehicle (EV) infrastructure will further amplify

cable requirements. As these decentralized plants proliferate, the cable sector will witness robust growth driven by the need for high-quality, durable, and efficient cabling solutions.

REFINERY INFRASTRUCTURE DEVELOPMENTS DRIVING CABLES DEMAND IN THE COUNTRY

With the country's substantial oil refining capacity, the demand for specialized cables such as power, control, instrumentation cables see significant growth in the country. **As of 2023, India's refinery capacity stands at approximately 250 million metric tons per annum (MMTPA),** and expansion projects like the **Reliance Jamnagar refinery's expansion and the IOCL Paradip Refinery** are expected to increase capacity further, driving cable demand.

In particular, low-voltage and medium-voltage power cables, along with fire-resistant and flame-retardant cables, are essential in refineries to ensure safety in highly explosive environments. The growth in marine and offshore oil and gas projects, such as those in the **KG Basin and the Mumbai High fields,** further propels the demand for marine cables, which are resistant to extreme conditions and offer longevity in saltwater environments. Further, government **initiatives such as the Petroleum, Chemicals, and Petrochemicals Investment Region (PCPIR) and the National Offshore Development Programme** also contribute to increased demand for cables in refinery infrastructure, both onshore and offshore.

SMART CITY PROJECTS PROPELLING MARKET DEMAND

The Smart City initiative in India is significantly driving the demand for cables, as these urban transformation projects require advanced infrastructure to support seamless connectivity, energy management,

transportation, and communication systems. As of 2024, 100 cities are being developed under the Smart Cities Mission, with over 50% of them already under active implementation. This rapid expansion is fueling the need for a wide range of cables, particularly in sectors like communication, power distribution, and transportation.

Demand is expected to be highest for data & communication cables for high-speed internet and data transmission, as well as for low and medium voltage power cables to enable efficient energy distribution across smart grids. Additionally, specialized cables for street lighting systems, surveillance networks, and electric vehicle (EV) charging stations will see substantial demand. A surge in underground cabling for enhanced aesthetics and reliability is also anticipated, given the focus on sustainable and energy-efficient urban environments.

The government has allocated over INR 48,000 Cr., for the Smart Cities Mission, with a major chunk earmarked for infrastructure development. This investment will increase demand for cables, especially for ICT networks, smart meters, and electric grid connections. Over the next few years, the demand for these cables is projected to grow rapidly as smart city projects mature and more cities come online.

MARINE & OFFSHORE PROJECTS DRIVING CABLE DEMAND

The **Marine & Offshore sector in India** is driving significant demand for specialized cables, as the country increasingly invests in offshore oil and gas exploration, ports, and maritime infrastructure. The demand for cables in this sector primarily focuses on power cables, control cables, instrumentation cables, and data & communication cables, all of which are critical for ensuring efficient and safe operations in harsh marine environments.

The Indian government has prioritized expanding its offshore energy projects, with initiatives such as the "**Offshore Oil and Gas Exploration Licensing Policy" and "Sagarmala Project,"** which aims to modernize port infrastructure and enhance connectivity. These projects are expected to substantially increase the need for robust and weather-resistant cables. Offshore energy projects, including the growing number of offshore wind farms, are also contributing to this demand. **By 2030, India plans to install 30 GW of offshore wind energy capacity**, a significant boost to the cable market in marine applications.

In 2024, India's offshore oil production is expected to rise, further driving the need for specialized power cables and control systems. **Government plans to invest INR 1,000 Cr., in port modernization** will also see increased demand for cables, particularly in areas requiring high resistance to saltwater and environmental degradation. Overall, the Marine & Offshore sector's growth is expected to escalate cable demand, particularly for those suited to withstanding the extreme conditions found offshore.

EV ADOPTION DRIVING EXPANSION OF CHARGING STATIONS AND DEMAND FOR NEW LOW VOLTAGE CABLE LINES IN INDIA

The automotive sector in India, **particularly with the rise of electric vehicles (EVs),** is significantly driving the demand for cables. As EV adoption accelerates, the need for specialized cables to support high-voltage battery systems, charging infrastructure, and onboard power management systems is growing rapidly. The **demand for high-quality, durable cables such as battery cables, power cables, charging cables, and connectors** is expected to increase substantially.

India's automotive sector is undergoing a major transformation, with the government's **Faster Adoption**

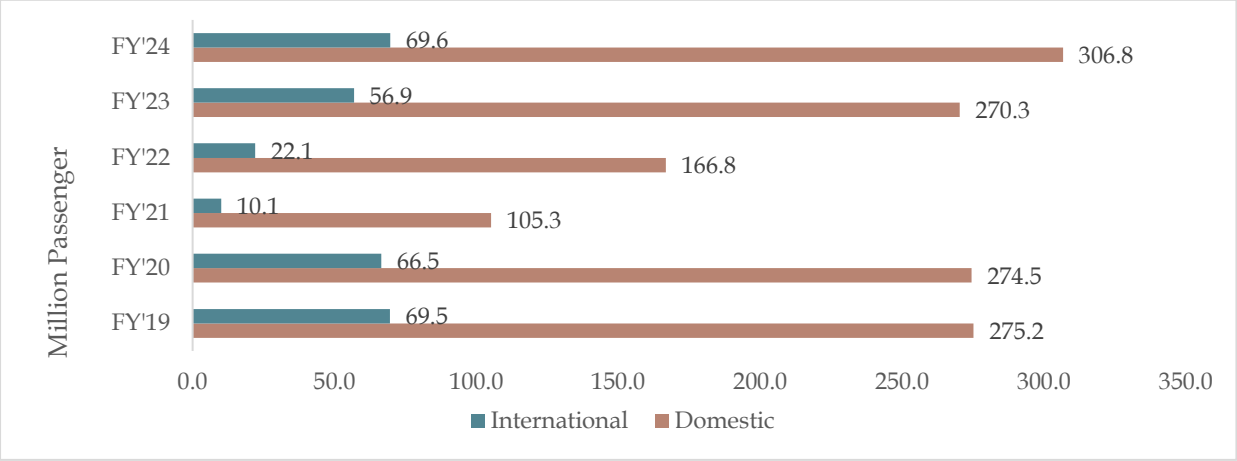
and Manufacturing of Hybrid and Electric Vehicles (FAME) schemes, providing substantial incentives for EVs and charging infrastructure. According to the Ministry of Heavy Industries, the **FAME II scheme has allocated INR 10,000 Cr., for promoting electric vehicles and establishing a robust EV charging network**. As of 2023, India aims to establish **over 50,000 EV charging stations across the country by 2030**. This is driving demand for cables, particularly in the charging infrastructure segment, where fast-charging stations require high-performance cables capable of handling large currents.

As manufacturers shift to more sophisticated electrical systems in both ICE and EV vehicles, the demand for automotive-grade cables, such as those used in infotainment systems, engine controls, and powertrain components, is also increasing. With growing investments in EV production and infrastructure, the automotive sector will continue to be a major driver for cable demand in India in the coming years.

TOURISM EXPANSION INITIATIVE OF INDIA DRIVING CABLE DEMAND FROM AIRPORTS

Airports in India are a significant driver of cable demand, fueled by ongoing infrastructure expansions and modernization initiatives for tourism expansion. With air traffic in India growing rapidly, the government has prioritized enhancing airport infrastructure, leading to a surge in construction and development projects. The Airports Authority of India (AAI) has launched several initiatives, including the development of greenfield airports, terminal expansions, and the upgrading of existing facilities under the National Civil Aviation Policy (2016). The 12th Five-Year Plan and the **National Infrastructure Pipeline (NIP) emphasize a significant increase in airport capacity, targeting over 200 operational airports by 2040**, creating a surge in demand for cables across various airport functions.

Figure 7-10: India Domestic & International Passenger Traffic Growth (in Million), FY'19-FY'24



Source: CAPA
Note 1: F represents Forecasted figures
Note 2: FY represents Financial Year (April-March)

The type of cables most in demand for airports includes low-voltage cables, communication & Instrumentation cables and power distribution cables. Low-voltage cables are essential for airport terminal systems, including lighting, air-conditioning, security, and communication networks. Fiber-optic cables are crucial for high-speed data transmission, vital for passenger information systems and air traffic control. Power cables will also see increased demand due to the need for efficient power distribution to handle the growing load at larger terminals and runways.

Notable projects such as the **expansion of Delhi and Mumbai airports, along with greenfield airports like Navi Mumbai and Noida International Airport**, are expected to accelerate cable demand significantly in the coming years. With a projected growth rate of 12-15% annually in India's airport infrastructure, the cable industry is poised for substantial growth.

8. India Power Market Overview

8.1. India Power Generation & Consumption

The Indian power sector is marked by a diverse mix of energy sources, **with a total installed capacity of 475.2 GW in FY'25, comprising 54% from fossil fuels and 46% from non-fossil fuels**. The electricity generation target for the year FY'25 is set at 1,900 billion units (BU), representing a target growth of around 9.3% from FY'24.

The electricity generation target for **FY'25 is set at 1,900 BU** comprising of **1,444.9 BU Thermal; 147.7 BU Hydro; 55.348 Nuclear; 8 BU Import from Bhutan and 244 BU Renewable energy sources (Excl. Large Hydro).** The growth in **Thermal generation is reported as 3.7%**, while for **renewables reached 8.5%,** as of November, 2024 (Provisional).

The **Plant Load Factor (PLF) for FY'25 (recorded up to December, 2024) is 69.0%,** with sector-wise PLFs of 74.2% for the central sector, 63.5% for the state sector, and 69.3% for the private sector. The sector is steadily witnessing high demand for electricity, driven by rapid industrialization, with manufacturing and infrastructure projects requiring substantial power; urbanization, as cities expand and consume more energy for residential and commercial use; and an improving standard of living, leading to increase per capita electricity consumption and greater adoption of electrical appliances and technologies.

In summary, the Indian power sector is poised for significant growth and transformation, driven by increasing demand, government initiatives, and technological advancements. While challenges remain, the sector's robust investment landscape and policy support provide a strong foundation for future development and sustainability.

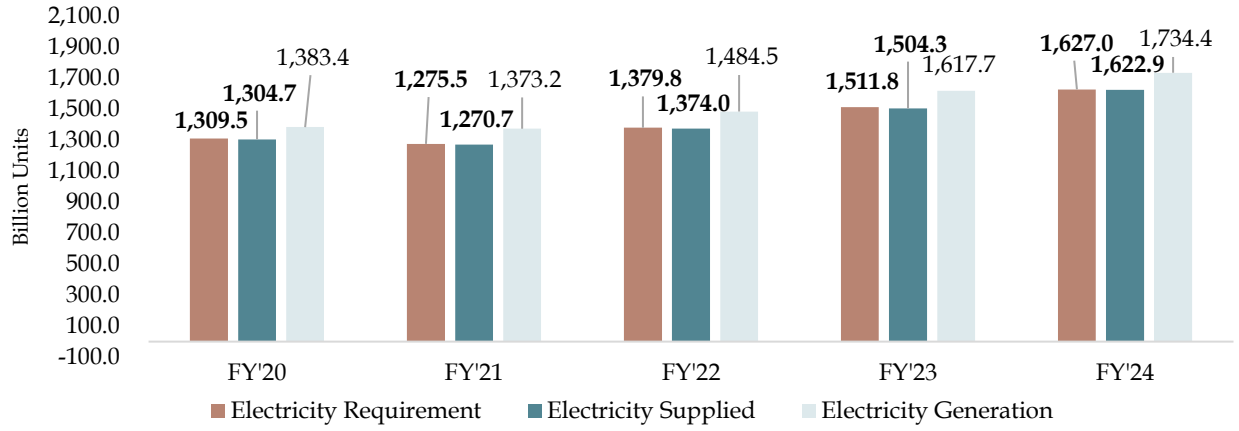
INDIA ELECTRICITY PRODUCTION AND CONSUMPTION GAP

"India's electricity production and consumption gap has significantly narrowed over the years, reflecting the country's concerted efforts to enhance its power infrastructure."

In FY'2023, the **gap between energy requirement and energy supplied is a mere 0.3%,** primarily due to system constraints or financial issues faced by some DISCOMs. The **gap between peak demand and peak supply stands at 1.4%, a marked improvement from the 4.5% gap in FY'14 when the demand was 136 GW**. This progress underscores India's commitment to ensuring a more reliable electricity supply to meet growing demand.

From FY'20 to FY'24, the electricity requirement has steadily increased from 1,309 BU to 1,627 BU, with the electricity supplied closely following, rising from 1,305 BU to 1,623 BU. This trend highlights the effective management and expansion of India's power sector, aligning supply closely with demand and ensuring a more stable and dependable electricity network.

Figure 8-1: Electricity Requirement and Electricity Supplied in India (in Billion Units), FY'20-FY'24



Source: India Climate & Energy Dashboard, Niti Aayog, India Climate & Energy Dashboard

As of FY'24, the gap between electricity supplied is falling short of the overall requirement. Several factors contribute to this production-consumption gap:

- **Rapid Demand Growth:** The number of electricity consumers surged from 23.91 Cr., in FY'16 to 33.24 Cr., in FY'23. This exponential increase, driven by industrialization, urbanization, and rural electrification, draws higher demand for electricity.

- **Distribution Inefficiencies**: The financial health of DISCOMs has been a long-standing issue, with cumulative losses increasing from INR 38,213.3 Cr., in 2015-16 to INR 56,037.0 Cr., in 2022-23. High transmission and distribution (T&D) losses, power theft, and poor billing and collection efficiencies exacerbate the gap.

- **Dependence on Thermal Power:** A significant portion of India's electricity generation comes from coal, which, despite being reliable, is subject to supply chain disruptions and environmental concerns. In FY'23, coal-based generation accounted for 75% of the total electricity generated, indicating a heavy reliance on this resource.

- **Renewable Energy Integration:** While India has significantly increased its solar capacity from 7,124 MW in 2015-16 to 81,814 MW in 2023-24, the intermittent nature of renewables, dependent on weather conditions and subject to fluctuations, makes them less reliable for meeting overall electricity demand consistently. Additionally, challenges in grid integration and the need for advanced storage solutions further limit their ability to serve as the primary power source.

- **Infrastructure Bottlenecks:** Despite increasing generation capacities, infrastructure limitations in transmission and distribution networks hinder the

efficient transfer of electricity from generation points to consumption areas. Upgrades in grid infrastructure and investment in smart grid technologies are crucial to bridging this gap.

- **Policy and Regulatory Hurdles:** The power sector is heavily regulated, marked with policy inconsistencies. Reforms aimed at improving the financial stability of DISCOMs, such as the **Ujwal Discom Assurance Yojana (UDAY)** scheme, are trying to address such structural issues but with a low success rate for now.

FACTOR INFLUENCING POWER DEMAND IN INDIA

The demand for power in India is influenced by demographic, economic, technological, and policy factors. Factors influencing power demand in India are:

Figure 8-2: Key Factors Influencing Power Demand in India

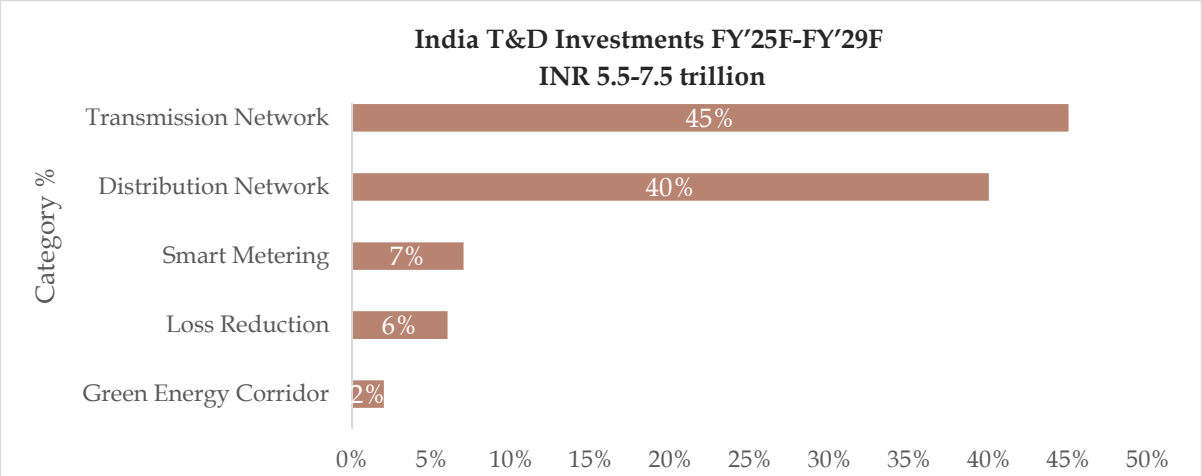
Key Factor	Description
Population Growth	India's population, projected to reach 1.5 billion by 2027, boosts residential electricity demand.
Rapid Urbanization	Rapid urbanization, with 40% of the population in urban areas by 2030, increases power density and consumption.
Growing Industrialization	Growth of manufacturing industries under 'Make in India' is driving industrial power demand. Fitch Ratings anticipating a 7% increase in India's power demand in FY'24.
Electrification of Transport	Policies promoting electric vehicles (EVs) significantly impact power demand.
Renewable Energy Integration	Commitment to 500 GW of renewable energy by 2031-32 influences power demand patterns and grid management.
Implementation of Energy Efficiency Measures	Schemes like UJALA and PAT help moderate demand growth by reducing energy intensity.
Temperature Variations	Seasonal and climatic variations affect power demand, with higher temperatures increasing cooling appliance usage.

Source: World Bank, Niti Aayog, Fitch, Ministry of Power, & Ken Research Analysis

8.2. India Power Transmission and Distribution Industry Market

The **Indian Transmission and Distribution (T&D)** industry is poised for unprecedented growth from FY'24 to FY'30, driven by increasing electricity demand, rapid renewable energy adoption, and aggressive rural electrification initiatives. The government's strong emphasis on grid modernization, along with large-scale investments in high-voltage transmission infrastructure, such as 400 kV and 765 kV systems, is creating significant opportunities for both domestic and global cable manufacturers to support India's evolving energy needs.

Figure 8-3: India Transmission and Distribution Investments in INR Trillion with Category wise % share, FY-25 - FY'29F

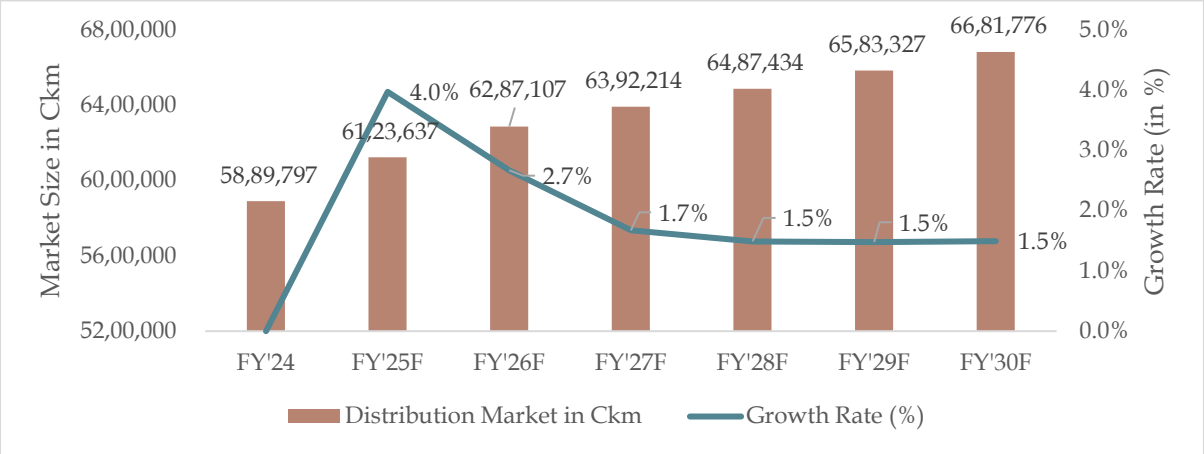


Source: National Power Portal, Central Electricity Authority (CEA)
Note 1: F represents Forecasted figures
Note 2: FY represents Financial Year (April-March)

Notable projects include the **National Infrastructure Pipeline** to spend an additional of **USD 4.5 trillion** on infrastructure from 2026 to 2030 to realize the vision of USD **5 trillion by 2025**, and to continue an escalated trajectory until 2030 and **Green Energy Corridor program,** which focuses on integrating renewable energy into the grid by constructing over 20,000 circuit kilometers of transmission lines and substations with a capacity of 48,000

MVA. Adani Transmission, Sterlite Power, and Tata Power have already committed significant capital to expand India's T&D network. For example, Adani Transmission's flagship 765 kV transmission line in Rajasthan and Sterlite Power's interstate transmission system (ISTS) projects demonstrate the ongoing demand for Extra High Voltage (EHV) cables. Local cable manufacturers are scaling up their production capacities to meet the growing need for high-voltage and extra-high-voltage cables. Additionally, the **implementation of Ultra Mega Power Projects (UMPPs)** and **renewable energy zones under programs such as GEC-I and GEC-II** is accelerating the need for robust transmission networks capable of supporting India's ambitious goal of achieving 50% renewable energy in its energy mix by 2030.

Figure 8-4: India Electricity Distribution Market Size (in Ckm), FY'24-FY'30F

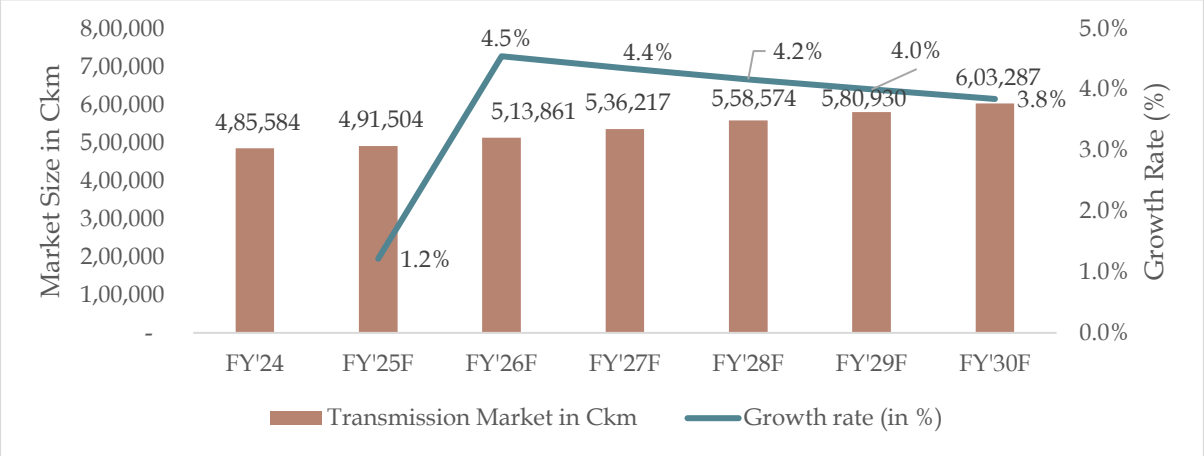


Source: National Power Portal, Central Electricity Authority (CEA)
Note 1: Distribution Lines includes 66kV/33kV/22kVand 11kV feeders only
Note 2: F represents Forecasted figures
Note 3: FY represents Financial Year (April-March)

The renewable energy sector continues to play a pivotal role in driving T&D investments. Initiatives such as the **Solar Park Scheme and Wind-Solar Hybrid Policy** are expected to add over 50 GW of renewable energy capacity annually, necessitating the construction of dedicated transmission networks to connect solar and wind farms to the grid. Companies like **Sterlite Power and Prysmian**

Group are at the forefront, providing high-performance cables for these renewable energy projects, ensuring grid reliability and efficiency.

Figure 8-5: India Electricity Transmission Market Size (in Ckm), FY'24-FY'30F



Source: National Power Portal, Central Electricity Authority (CEA)
Note 1: Transmission lines include of 220 KV and above
Note 2: F represents Forecasted figures
Note 3: FY represents Financial Year (April-March)

In addition to **high-voltage infrastructure, rural electrification and urban distribution upgrades** remain key focus areas of the central and state governments in India. Thus, driving consistent demand for low-voltage and medium-voltage cables. Industry leaders such as Havells India and RR Kabel are capitalizing on this demand by catering to these growing markets with tailored cable solutions.

Further, the proposed investments in smart grid technologies, distribution automation, and advanced metering infrastructure are expected to improve grid efficiency and resilience, adding another dimension to the T&D market's expansion. With a **targeted electrification rate nearing 100% by 2030,** India's T&D sector is set to play a critical role in ensuring uninterrupted power supply and meeting the country's decarbonization goals.

9. India Cables Market Analysis

9.1. Importance of Cables Requirement in Public Infrastructure Project

Cables are integral to the success of India's public infrastructure projects, providing the backbone for power transmission and data communication. Initiatives like the **smart cities mission, metro rail expansion, and renewable energy installations** have significantly increased the demand for advanced cable systems.

For instance, metro rail projects in cities such as Mumbai, Bengaluru, and Delhi require high-performance cables for signaling, power distribution, and communication. Companies such as **Havells India and Polycab India** have secured contracts to supply **low-voltage and medium-voltage cables** for these projects. Similarly, the **construction of high-speed rail projects**, such as the **Mumbai-Ahmedabad Bullet Train,** has created a market for specialized cables that can withstand high loads and extreme conditions.

In the renewable energy sector, solar and wind farms demand a range of cables, including DC, AC, and hybrid types, for efficient power transmission. Companies like **KEI Industries and RR Kabel** are actively supplying cables for projects under the **National Solar Mission**.

Private infrastructure players such as **Larsen & Toubro (L&T) and Adani Group** have been key contributors to the growth of the cable industry. Their large-scale projects require extensive use of advanced cables, further boosting demand. International companies like **Prysmian Group** have also tapped into this growing market by supplying high-voltage cables for grid connectivity and transmission projects.

Public-private partnerships (PPPs) in infrastructure development have further accelerated the adoption of high-quality cables. The **introduction of smart grids and EV charging stations** under urban modernization plans highlights the need for innovative cable solutions. Companies like **Sterlite Technologies are actively working on fiber-optic solutions** for smart city networks, while Legrand India is focusing on EV-specific cable systems.

9.2. Impact of Indian manufacturing Industry on Cable Demand

The **Indian manufacturing sector** is a cornerstone of the country's economic growth, **contributing approximately 17% to the GDP in FY'23** and projected to grow significantly by FY'30. The sector's expansion, driven by government initiatives, private investments, and global supply chain shifts, has substantially increased the demand for medium & high voltage cable of 11/33 and 66 kV, across industries such as automotive, electronics, consumer goods etc., due to their high voltage requirements to run heavy machineries.

The **Production Linked Incentive (PLI) scheme**, introduced by the Indian government, has been a game-changer for the manufacturing industry. Sectors like electronics, automotive, and white goods have witnessed increased investments, fueling demand for specialized cables used in assembly lines, robotics, and power distribution. For instance, the PLI for Electronics Manufacturing has led to the establishment of production units by companies like **Foxconn, Wistron, and Samsung,** all of which require advanced cables for uninterrupted operations.

Additionally, the automotive manufacturing industry, particularly the **growing focus on electric vehicles (EVs),** has emerged as a key driver for cable demand. EV

manufacturers such as **Tata Motors, Ola Electric, and Mahindra Electric** are expanding production capacities, creating demand for high-performance cables used in battery systems, EV chargers, and vehicle wiring. Companies like RR Kabel and Legrand India are tapping into this market by developing EV-specific cable solutions.

Additionally, the growth of heavy engineering and machinery manufacturing has spurred the demand for durable and flexible cables. Players **like Larsen & Toubro and Siemens India** are investing in smart factories equipped with automated systems, which require an extensive network of power and data & communication cables. This trend has provided opportunities for cable manufacturers like Havells India and Polycab India to innovate and supply high-quality cables suited for industrial automation.

Further, government schemes like **Make in India and Skill India** have encouraged the establishment of new manufacturing hubs across the country. These hubs, particularly in states such as **Gujarat, Maharashtra, and Tamil Nadu**, are fueling regional demand for industrial cables. For example, the **Gujarat International Finance Tec-City (GIFT City) and industrial clusters in Chennai** have created large-scale requirements for cables used in energy-efficient factories and IT parks.

Global supply chain diversification has also positioned India as an attractive alternative to China for manufacturing. Companies such as **Apple, ABB, and Bosch** are expanding their operations in India, creating additional demand for power and fiber-optic cables to support their production units and export operations. Local manufacturers are capitalizing on this trend by supplying fiber-optic cables to these facilities, ensuring seamless communication and automation.

Private investments in manufacturing facilities by multinational companies like **Foxconn (in Karnataka) and Hyundai (in Tamil Nadu)** further boost cable demand. These facilities often require a mix of low-voltage and high-voltage cables for energy distribution and machinery operations. Furthermore, the renewable energy sector's integration into manufacturing units, such as **solar rooftop installations,** adds to the demand for specialized solar cables, where players like KEI Industries excel.

Thus, the growth of the Indian manufacturing sector, supported by government incentives, private investments, and global realignments, has had a cascading effect on cable demand. The sector's diversification across industries ensures sustained and evolving requirements for advanced cable solutions, positioning domestic and international cable manufacturers to capitalize on these opportunities.

9.3. India Cable Industry Supply Vs Demand Gap Analysis

The Indian cable industry faces a growing supply-deficit, particularly in the high voltage (HV) cable segment, as demand from power transmission, renewable energy, infrastructure, and industrial sectors outpaces domestic production capacity. With India's rapid grid expansion and renewable energy goals targeting **50% of the energy mix by 2030**, the demand for HV Cables has surged. However, domestic manufacturers struggle to scale production at the same rate due to constraints in raw material availability, especially copper, a critical component in cable manufacturing.

India is **highly dependent on copper imports, sourcing nearly 40% of its copper** requirements from countries like **Chile, Japan, and China**. The closure of the Sterlite Copper plant in 2018 reduced domestic copper production by over 40%, exacerbating raw material shortages and increasing reliance on costly imports. This has not only widened the

supply-demand gap but also escalated production costs for cable manufacturers, impacting their ability to meet growing domestic needs.

The shortage of HV Cables is **further amplified by delays in infrastructure upgrades and insufficient investments** in manufacturing capacity. Addressing this gap requires both government incentives to boost domestic copper production and strategic investments in advanced cable manufacturing facilities. Bridging this gap presents a significant growth opportunity for players in the cable industry, especially those that can localize supply chains and scale production to meet rising demand in key sectors.

9.4. Government Policy Support Impacting cable demand in India

The Indian government has been instrumental in driving the growth of the cable industry by allocating substantial budgets to infrastructure projects and implementing supportive policies. Programs such as **Bharatmala Pariyojana, Sagarmala Project, and the National Infrastructure Pipeline (NIP)** have created a surge in demand for power and data & communication cables, essential for road, port, and urban development projects.

The **Aatmanirbhar Bharat** initiative has further emphasized self-reliance, encouraging local production through subsidies and tax exemptions. Under this umbrella, **the PLI scheme for white goods and telecom** has been particularly impactful in the cable industry. For example, companies like **HFCL Limited and Sterlite Technologies** have ramped up their fiber-optic cable production to meet the demands of 5G infrastructure and data centers.

Renewable energy projects have been another focus area. Under the **National Solar Mission** and the government's

ambitious target of 500 GW of renewable energy capacity by 2030, the demand for solar and wind-specific cables has skyrocketed. Companies such as **KEI Industries and Finolex Cables** have expanded their product portfolios to cater to this growing segment.

Table 9-1: India Budget Allocation for Key Infrastructure Development Excluding Power Sector (INR Cr.), FY'24 - FY'26

Department	Policy/Scheme	FY'24	FY'25*	FY'26*
Centrally Sponsored	Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PMABHIM)	1,228.3	2,100.0	3,000.0
	Pradhan Mantri Awas Yojna (PMAY)-Urban	28,652.7	22,103.0	13,670.0
	Smart cities mission	8,652.9	8,000.0	2,000.0
Ministry of Civil Aviation	Production Linked Incentive (PLI) Scheme for Drone and Drone Component	31.22	57.0	NA
Ministry of Housing & Urban Affairs	Metro projects	19,506.2	24,691.5	31,239.3
Ministry of New and Renewable Energy	Solar Power (Grid)	5,009.2	1,300.0	1,500.0
	Wind Power (Grid)	916.3	800.0	500.0
	Hydro Power (Grid)	13.5	45.0	50.0
Ministry of Railways	New lines	33,702.2	31,458.8	32,235.2
	Signalling and telecom	3,751.0	6,006.1	6,800.0
	Electrification projects	5807.0	6,072.3	6,150.0
	Other electrical works	1434.4	1632.9	1650.5

Source: Ministry of Finance (Government of India), Year-on-Year Budget
Note 1: Budget of FY'24 are Actual estimates.
*Note 2: * refers to Budget estimated of FY'25 are revised estimated, whereas for FY'26 is budget estimate*

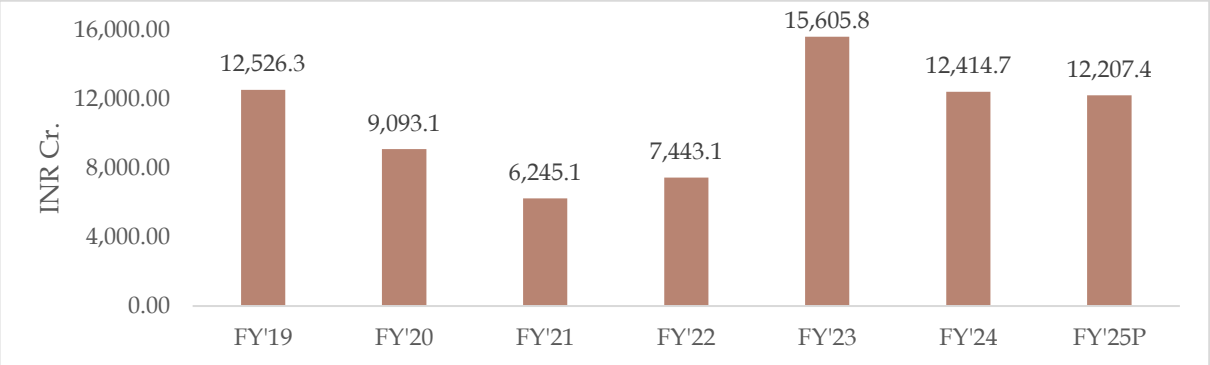
Private investments have also played a pivotal role, with players like **Adani Transmission and Tata Power** investing heavily in transmission and renewable projects that require high-quality cable systems. Additionally, **international manufacturers such as LS Cable & System (South Korea)** have expressed interest in setting up joint ventures in India, leveraging the favorable policy environment.

The government's focus on rural electrification through schemes like **Saubhagya** and urban modernization through the **Smart Cities Mission** has further amplified the need for reliable and efficient cables. These initiatives ensure sustained growth in cable demand across both urban and rural areas, fostering innovation and investment in the industry.

9.5. Government Tender Demand of Cables for Public Projects

The government tender demand for cables in India demonstrates **notable fluctuations from FY'19 to FY'25**, reflecting shifting priorities in public infrastructure and development projects. In **FY'19, demand stood at INR 12,526.28 Cr**, driven by ongoing investments in power transmission, smart cities, and infrastructure upgrades. However, the demand saw a decline in subsequent years, reaching INR 6,245.13 Cr in FY'21, likely influenced by economic disruptions due to the pandemic, which caused delays in government projects.

Figure 9-1: Demand for Cables in India by Public Sector Undertakings in INR Cr., FY'19-FY'25



Source: Tender Portal & Ken Research Analysis
Note 1: P refers to Projected Data
Note 2: FY represents Financial Year (April-March)

Post-pandemic recovery spurred a resurgence, with demand peaking at INR 15,605.84 Cr in FY'23, fueled by

large-scale initiatives in renewable energy, electrification, and urban development. **FY'24 witnessed a slight decline to INR 12,414.65 Cr,** as some projects reached completion or entered later phases with reduced cable requirements. A sharper drop to INR 6,535.57 Cr is projected for FY'25, signaling a shift in government focus or possible budget reallocations. These variations highlight the cyclical nature of public project investments, influenced by economic conditions, policy shifts, and execution timelines. Future growth in cable demand will likely depend on continued investments in infrastructure, green energy, and urbanization projects.

9.6. India Budget Allocation

The budget allocations for India's power sector, particularly in the generation part, are set to drive significant demand for cables. With a focus on increasing power generation capacity, including renewable energy and cleaner technologies, the demand for cables—essential for power transmission and distribution—will see an uptick.

For instance, the **Reform Linked Distribution Scheme, RLDS (with an allocation of INR 9,768.5 Cr., in FY'24)** emphasizes upgrading infrastructure, which will drive demand for power cables. In addition, the substantial funding for transmission system improvements in states like Arunachal Pradesh and Sikkim indicates a need for high-capacity cables for both transmission and distribution.

Moreover, **India's push towards renewable energy** and increasing generation targets will necessitate the installation of extensive cable networks to integrate new plants with the grid. The Ministry of Power has set ambitious generation targets, including a **7.2% growth in electricity generation for FY'24**, which translates to the

need for robust transmission infrastructure that relies heavily on advanced cable systems (PRSI, IRENA).

As more power plants, especially in renewable sectors, come online, additional cables are required to handle the increased load and maintain grid stability, thus driving demand. Therefore, the power sector budget, focused on system strengthening, reform, and cleaner energy adoption, will significantly boost the cable industry in India.

Table 9-2: India Power Sector Budget Allocation (INR Cr.,), FY'24-FY'26

Policy/ Schemes	FY'24	FY'25*	FY'26*
Reform Linked Distribution Scheme	9,768.5	12,665.0	16,021.0
Assistance to CPSUs	3,019.3	2,980.8	2,713.1
Strengthening of Transmission System in the States of Arunachal Pradesh and Sikkim	1,110.7	1,214.7	0.01
Power System Development Fund	1,004.4	1,200.0	1,100.1
Interest Subsidy to National Electricity Fund	453.7	200.0	250.0
Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim (Program Component)	203.7	218.3	304.7
Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim (EAP Component)	171.7	181.7	295.3
Energy Conservation Schemes	30.4	35.0	44.4
Other Central Sector Expenditure	3,409.1	3,771.8	3,217.3

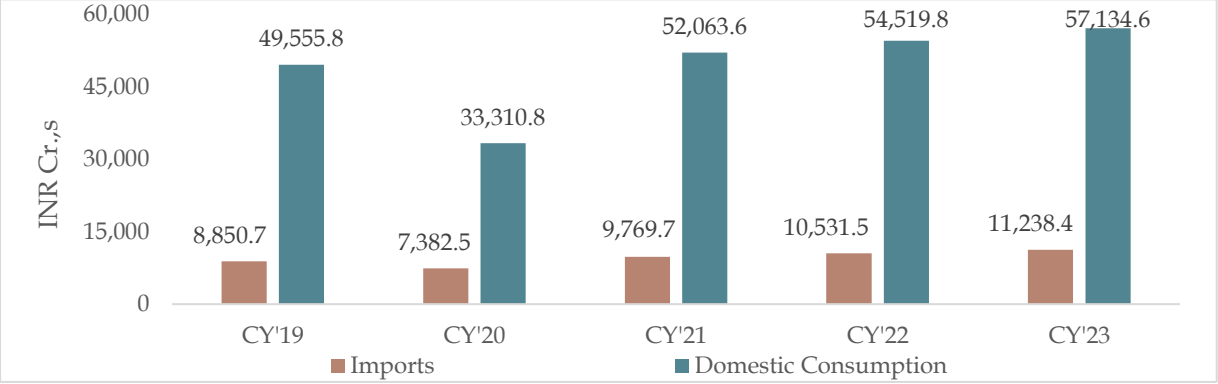
Source: Ministry of Finance (Government of India), Year-on-Year Budget
Note 1: Budget of FY'24 are Actual estimates.
*Note 2: * refers to Budget estimated of FY'25 is revised estimated, whereas for FY'26 is budget estimate*

9.7. Domestic Consumption and International Imports

India's cable industry **heavily depends on domestic manufacturing, which caters to nearly 80% of the country's cable consumption**. The remaining **20% is met through imports**, with the value of cable imports reaching **INR 11,238.38 Cr. in CY'23.** Domestic manufacturers such as Polycab India, KEI Industries, Havells India, and RR Kabel dominate the local market, offering a wide range of cables for power, telecom, and industrial applications. These companies have established extensive distribution networks and supply chains that align with the growing infrastructure and industrialization demands.

However, **imports continue to play a vital role in fulfilling the demand for high-tech, specialized cables** that local manufacturers currently lack the capacity to produce. Companies like **Prysmian Group (Italy) and Nexans (France) are significant players** in the import segment, offering cutting-edge technology and durable products.

Figure 9-2: India Domestic Consumption & International Imports of Cables (INR Cr.), CY'19-CY'23



Source: ITC Trade Map, HS Code: 8544 Insulated "incl. enamelled or anodised" wire, cable "incl. coaxial cable" and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables, made up of individually sheathed fibers, whether or not assembled with electric conductors or fitted with connectors.
Note 1: Exchange Rate considered 1USD=86.53 INR
Note 2: CY in the figure represents Calendar Year (January-December)

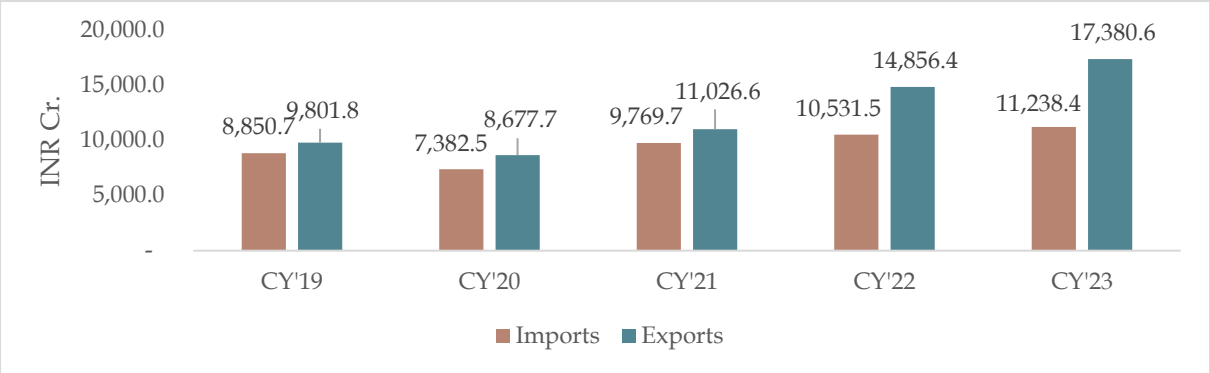
Government **initiatives such as the Production Linked Incentive (PLI) scheme for electronics and telecom** have boosted local manufacturing, aiming to reduce the dependency on imports. These schemes encourage companies to develop advanced products like fiber-optic cables for 5G networks and solar cables for renewable energy projects. **Local manufacturers such as Dynamic Cables, Ultracab, V-Marc, etc.,** are leveraging this opportunity to invest in R&D and technology upgrades to compete with global brands.

Additionally, the **Make in India initiative** incentivizes companies to localize production by offering tax benefits and subsidies, further reducing import reliance. Private investments have also surged in the cable industry. For instance, **Goldman Sachs-backed RR Kabel recently expanded its manufacturing capabilities** to produce high-quality cables catering to renewable energy and infrastructure projects. Furthermore, multinational companies such as Legrand India have invested in domestic production facilities to tap into the growing market.

9.8. Trade Landscape of Cables Industry

The **trade landscape of India's cables industry** reflects a dynamic growth trajectory, marked by a steady rise in exports and moderate growth in imports. India has transitioned into a net exporter, with **exports growing at a CAGR of 15.5% from INR 9,801.8 Cr in 2019 to INR 17,380.6 Cr in 2023**. Key manufacturers such as **Polycab, KEI Industries, and Finolex dominate the domestic and export markets,** focusing on high-quality power cables, optical fiber cables, and specialty cables.

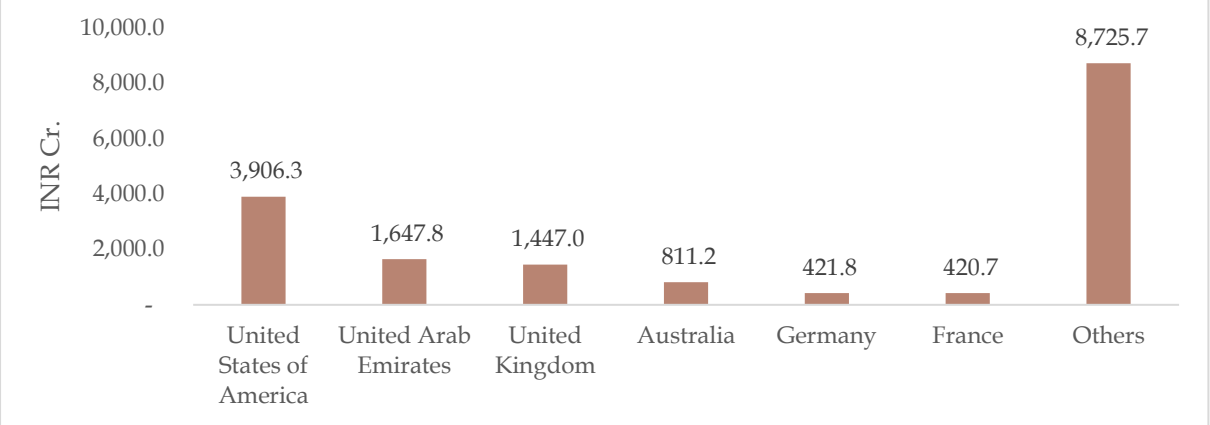
Figure 9-3: India Cable & Wire Trade Landscape on the Basis of Imports and Exports in INR Cr., CY'19 - CY'23



Source: ITC Trade Map
HS Code: 8544 Insulated "incl. enamelled or anodised" wire, cable "incl. coaxial cable" and other insulated electric conductors, whether or not fitted with connectors; optical fiber cables, made up of individually sheathed fibers, whether or not assembled with electric conductors or fitted with connectors
Note 1: Exchange Rate considered 1USD=86.53 INR
Note 2: CY represents Calendar Year (January-December)

While, exports are primarily driven by demand for advanced power and communication cables in markets like the USA, UAE, and the UK, which account for over 40% of exports.

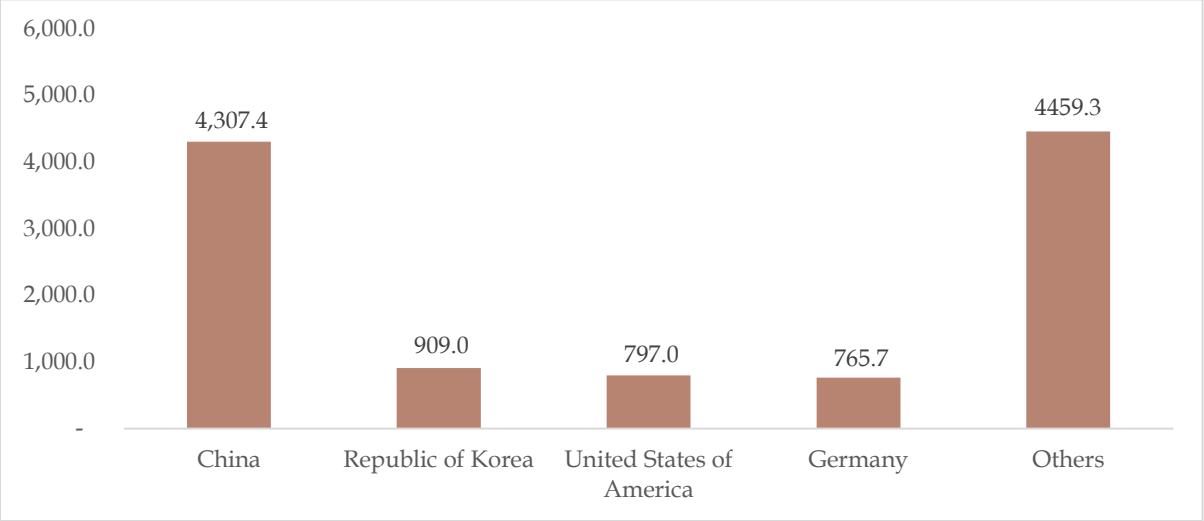
Figure 9-4: Market Share of Key Cable and Wire Exporting Countries in India in INR Cr., CY'23



Source: ITC Trade Map
HS Code: 8544 Insulated "incl. enameled or anodized" wire, cable "incl. coaxial cable" and other insulated electric conductors, whether or not fitted with connectors; optical fiber cables, made up of individually sheathed fibers, whether or not assembled with electric conductors or fitted with connectors
Note 1: Exchange Rate considered 1USD=86.53 INR
Note 2: CY represents Calendar Year (January-December)

On the import side, **India predominantly sources raw materials and specialized cables from China (INR 4,307.4 Cr) and other countries like South Korea and Germany**. The imports often include insulated wires, high-voltage cables, and components required for advanced manufacturing, as domestic production capacities for these niche products remain limited. This highlights the dual nature of the industry, with robust export potential and continued reliance on imports for specific segments. Strengthening local manufacturing for advanced cables could further bolster India's trade position in this sector.

Figure 9-5: Market Share of Key Cable and Wire Importing Countries from India in INR Cr., CY'23



Source: ITC Trade Map, HS Code: 8544 Insulated "incl. enameled or anodized" wire, cable "incl. coaxial cable" and other insulated electric conductors, whether or not fitted with connectors; optical fiber cables, made up of individually sheathed fibers, whether or not assembled with electric conductors or fitted with connectors
Note 1: Exchange Rate considered 1USD=86.53 INR
Note 2: CY represents Calendar Year (January-December)

10. Supply Chain Analysis

10.1. Overview of Supply Chain for Raw Material For Cable Production

The supply chain for raw materials in the Indian cable production industry integrates domestic procurement and imports to ensure the availability of essential components such as copper, aluminum, PVC/XLPE, steel, and chemicals used for insulation and sheathing. **Local processors and refiners handle raw materials sourced as ores or finished goods,** converting them into usable products like copper rods and wires. **Key hubs for processing and refining include states such as Gujarat, Maharashtra, and Tamil Nadu.** Logistics networks facilitate the distribution of these materials to intermediaries or directly to manufacturers.

In India cable manufacturers operate production facilities particularly in industrial regions such as Pune, Bengaluru, and Delhi-NCR. Some of the manufacturers procure raw materials through intermediaries, majorly from domestic raw material producers along with some import driven procurement to produce a variety of cables for industries such as power, telecommunications, and construction. **Companies such as NALCO, BALCO, Hindalco, and Vedanta, play a vital role in the upstream supply chain**. The industry leverages robust transportation and logistics networks to ensure seamless material movement, though challenges like dependency on imports for copper and price volatility continue to impact operations.

11. Regulatory Landscape

11.1. India Cable Industry Regulatory Landscape

In India, manufacturers of Power cables, AB Cable, Control Cables and Solar Cables must adhere to the following regulations:

- **IS 694:2010**: This standard specifies requirements for PVC-insulated, unsheathed, and sheathed cables with rigid and flexible conductors for voltages up to and including 450/750 V. These cables are commonly used in domestic and industrial low-voltage installations, ensuring safety and reliability in electrical wiring systems.

- **IS 7098 (Part 1):1988:** This standard covers specifications for cross-linked polyethylene (XLPE) insulated PVC sheathed cables suitable for voltages up to and including 1.1 kV. These cables are widely used in power distribution networks due to their superior thermal and electrical properties.

- **IS 7098 (Part 2):2011:** This part addresses XLPE insulated thermoplastic sheathed cables designed for medium voltages from 3.3 kV up to and including 33 kV. These cables are essential for medium to high-voltage applications, offering excellent insulation and mechanical strength.

- **IS 14255:1995:** This standard specifies requirements for Aerial Bunched Cables (ABC) for voltages up to and including 1,000 V. ABC systems are used for overhead power distribution, providing improved safety and reduced power losses compared to traditional bare conductor systems.

- **IS 1554 (Part 1):1988:** The standard covers PVC-insulated (heavy-duty) electric cables for working voltages up to and including 1,100 V. These cables are extensively used in power distribution and industrial applications.

- **BIS 17293:2020:** Specifies the technical and safety requirements for electric cables used in photovoltaic (PV) systems with a rated voltage of 1500V DC, ensuring resistance to UV, high temperatures, and mechanical stress.

Further, while manufacturing AAC, AAAC and ACSR Conductors strictly adhering to IS Specification are necessary:

- **IS 398 (Part 1):** IS 398 is a series of standards for overhead aluminum conductors in power transmission. Part 1 (1996) covers AAC (All Aluminum Conductor), Part 2 (1996) addresses ACSR (Aluminum Conductor Steel Reinforced), Part 3 specifies aluminum conductors with aluminized steel reinforcement, Part 4 (1994) details AAAC (Aluminum, Magnesium Silica Conductor), and Part 5 covers high-voltage galvanized conductors (400 kV and above), ensuring performance and safety in electrical networks.

11.2. Importance Of NABL In-House Labs And Approval From Different Vendors

In the Indian cables industry, ensuring the quality and safety of products is paramount, particularly due to the critical nature of cables in sectors such as power distribution, telecommunications, and construction. In this context, the role of NABL (National Accreditation Board for Testing and Calibration Laboratories) in-house labs and vendor approvals becomes increasingly important in maintaining the reliability and performance standards of cables.

NABL In-House Labs in the Cables Industry:

NABL accreditation is a mark of trust, signifying that a testing laboratory adheres to the highest standards of quality and competence. For cable manufacturers, maintaining in-house labs accredited by NABL is vital for

several reasons. These labs allow companies to conduct accurate and consistent testing of materials, processes, and finished products, ensuring compliance with national and international standards. Tests in these labs cover a wide range of parameters, such as electrical conductivity, dielectric strength, insulation resistance, fire retardance, and mechanical durability. These tests help in identifying any potential defects or weaknesses early in the production cycle, thereby reducing the likelihood of faulty products reaching the market.

Moreover, having an in-house NABL-certified lab enables manufacturers to enhance their operational efficiency. They do not have to depend on external agencies for testing, which can save time and cost, allowing for faster product development and testing cycles. It also provides manufacturers with a competitive edge in the marketplace by enabling them to guarantee the reliability and safety of their products, which is a significant selling point in a highly regulated industry. NABL accreditation adds a layer of credibility, reassuring both customers and regulatory bodies about the manufacturer's commitment to maintaining high standards of quality.

Importance of Vendor Approvals in the Cable Industry:

In addition to the role of NABL in-house labs, approval from various vendors and regulatory bodies plays a crucial role in the cables industry. Vendor approvals serve as an endorsement of a manufacturer's product quality and reliability. These approvals are typically granted by original equipment manufacturers (OEMs), utility companies, government bodies, and independent standards organizations after rigorous testing and certification processes. Approval from recognized vendors or organizations indicates that the cables meet specific performance criteria required by the industry, including compliance with safety regulations, environmental standards, and technical specifications.

For cable manufacturers, vendor approvals are a gateway to accessing larger, more prestigious projects and customers. Many large-scale infrastructure and construction projects require vendors to have cables that meet specific standards, including fire safety, electrical performance, and environmental sustainability. Gaining approval from these vendors can open doors to a wide range of opportunities in sectors like transportation, power generation, and telecommunications.

Additionally, vendor approvals often serve as a measure of a company's reputation and reliability. They provide manufacturers with an edge in the market by enhancing their credibility and showcasing their adherence to quality benchmarks. Without these approvals, manufacturers may find it difficult to penetrate certain markets, particularly those with stringent regulatory and safety requirements.

Importance of Vendor Approvals in the Cable Industry:

Pre-qualification requirements are critical in the Indian cable industry as they ensure that manufacturers meet stringent safety, performance, and regulatory standards. These requirements are set by governmental bodies, OEMs, and utility companies to ensure cables used in critical infrastructure are reliable, durable, and compliant with industry norms. Meeting pre-qualification criteria allows manufacturers to access larger, high-profile projects, including in sectors like power, telecommunications, and construction. These criteria typically include testing for electrical conductivity, insulation resistance, fire safety, and environmental sustainability, ensuring cables perform optimally in demanding environments. This process helps build trust and credibility, securing long-term business opportunities.

Table 11-1: India Cable Pre-Qualification Requirements

Parameters	Description
Standard Tender Requirements	• Each of the cable manufacturer participating in government tenders or bid shall have its own testing laboratories or in-house NABL labs to ensure the quality of their products. • General Information: The manufacturer should have past three years of balance sheets submitted at least, should have valid plant address and general address. However, this requirement may increase for different tender projects. • For the manufacturers who are not present in India and service the country through suppliers, the requirement to have authorized representative in India to participate in the tenders of bid is necessary.
Optional Tender Requirements	• **Vendor Approvals:** Although vendor approvals are necessary however, many organizations have a separate vendor approval process, where they evaluate potential suppliers. • Other requirements such as experience in cables supplied, key projects handled (in detail), and voltage levels keeps on changing basis the tender requirement.

Source: Ken Research Analysis

12. Market Growth Drivers

12.1. Key Growth Drivers of the Indian Market

India's cable industry is experiencing significant growth driven by several key dynamics. Utility firms are focusing on reducing Aggregate Technical and Commercial (AT&C) losses, with major reforms such as the Revamped Distribution Sector Scheme (RDSS) aimed at modernizing infrastructure. This includes the increased demand for advanced cables to integrate renewable energy into the grid. Cross-border power transfers, data center expansions, and healthcare infrastructure are also fueling the need for high-performance cables. Additionally, rail infrastructure growth, real estate expansion, and energy storage projects are further propelling demand. Together, these developments create substantial opportunities for cable manufacturers across various sectors in India.

SURGE IN CROSS BORDER POWER TRANSFER

The **surge in cross-border power transfer** is significantly driving the demand for cables in India, as increasing energy exchanges with neighboring countries require robust transmission infrastructure. Currently, power exchange occurs between **India and nations such as Nepal, Bangladesh, Bhutan, and Myanmar**, with existing transmission links at various voltage levels (33 kV, 132 kV, and 400 kV) between India's border states and these countries. With about 4,100 MW of power being exchanged, this is expected to rise to 7,000 MW by 2026-27, thereby necessitating enhanced capacity in cross-border transmission infrastructure.

Additionally, **interconnections with Sri Lanka** are in advanced stages, and initiatives like **One Sun One World One Grid (OSOWOG),** which involves connecting India's grid with international players like **Singapore, UAE, and**

Saudi Arabia, are expected to further boost demand for high-quality cables. These developments call for investment in advanced cables that can handle increased transmission volumes, ensure reliability, and facilitate long-distance, cross-border power transfers. Indian cable manufacturers are likely to benefit from the growing need for durable, high-capacity cables capable of supporting this expansion of cross-border power connectivity.

GROWING TRACTION TOWARDS PVC INSULATED COPPER WIRES WITH BOOM IN URBANIZATION

The rise in urbanization across India is driving the demand for PVC insulated copper cables due to their superior performance and cost-effectiveness. As per the World Bank, urban population is **India is will constitute over 40% of the total population by 2036 compared to 36% in 2023.** With this increase in population of urban populace, sizeable investments to build supportive infrastructure requirement is emerging. Thus, the central and state governments are working to cater this emerging growth through smart cities projects, and commercial infrastructure development. As cities expand, there is an increasing need for reliable, efficient, and safe electrical systems in residential, commercial, and industrial sectors. Copper cables, known for their excellent conductivity, ensure optimal power transmission with minimal losses. When insulated with PVC, they provide enhanced safety, fire resistance, and durability, making them ideal for the varied and often harsh environmental conditions found in urban areas. Additionally, PVC insulation offers flexibility, ease of installation, and resistance to corrosion, which is critical in rapidly developing infrastructure. These benefits make PVC insulated copper cables the preferred choice over other cables like aluminum or steel, which may not offer the same combination of efficiency, safety, and long-term reliability necessary to meet the growing energy demands of urban India.

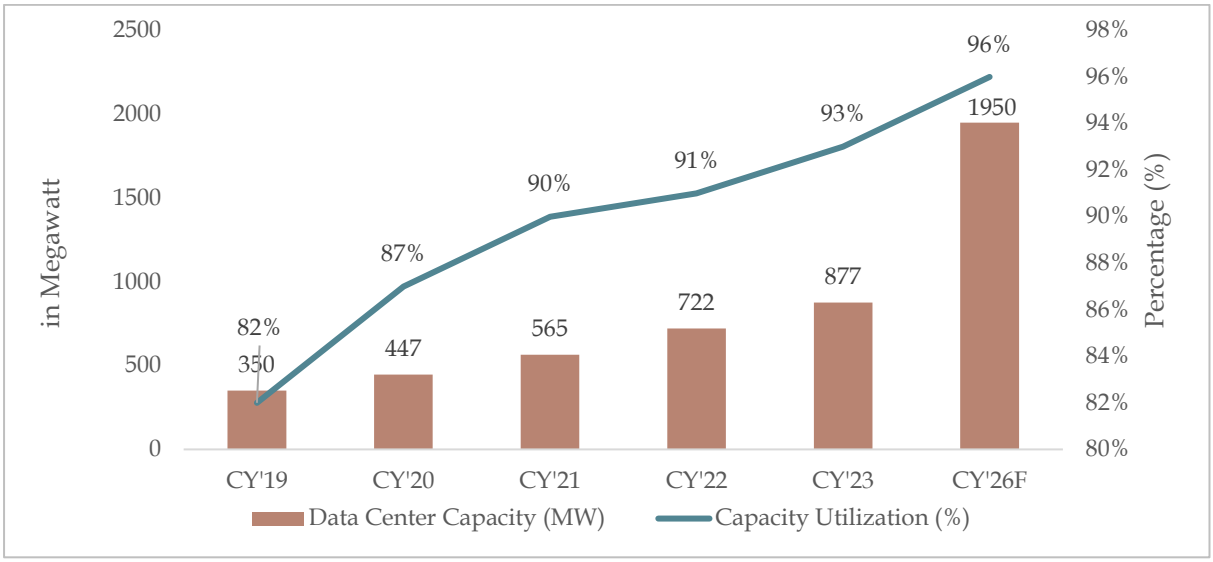
SCREENED CONTROL CABLES GAINING PROMINENCE WITH GROWING NEED FOR CABLES WITH HIGH EMI REDUCTION CAPABILITIES

The demand for screened control cables is rapidly emerging in India due to the country's growing industrial and infrastructure sectors. Screened control cables, known for their **ability to reduce electromagnetic interference (EMI),** are increasingly essential in environments with high electrical noise, such as manufacturing plants, data centers, and power stations. As India witnesses an industrial boom, with the manufacturing sector contributing over 14.27% to GDP in FY'24, the need for reliable and efficient communication and control systems has surged. Additionally, with the expansion of smart cities and large-scale automation, the requirement for precise and interference-free signals is critical. According to industry reports, the Indian control cables market is expected to grow at a CAGR of 7-8% over the next few years, with an increasing preference for screened cables due to their enhanced performance and safety. This growth reflects the shift towards high-quality, durable cables in critical applications.

DEMAND FOR NEW GENERATION, TRANSMISSION AND DISTRIBUTION LINES ARE EMERGING WITH EXPANDING DATA CENTER BUISNESS IN INDIA

The **rapid expansion of data centers in India** is being driven by the growing demand for cloud services, e-commerce, and digital platforms. With the digital economy booming, businesses and consumers are generating vast amounts of data, pushing the need for more robust storage, processing, and connectivity infrastructure. To support this growth, data centers require more advanced power and communication systems, fueling the demand for high-performance cables.

Figure 12-1: India Data Center Capacity in Megawatt and Capacity Utilization (in %), CY'19-CY'26F



Source: Care Ratings, Industry Reports, Ken Research Analysis
Note 1: Above mention years are Calendar Year starting from 1st January to 31st December
Note 2: F represents forecasted figure

~50 new data centers with nearly 1,100 MW of capacity are scheduled to be developed by the end of 2026 in India, increasing the total DCs of the country from 151 in 2023 to 200 in 2026

The expansion of these data centers is leading to increased demand for power infrastructure. Thus, driving need for power cables, especially medium to high-voltage and high-current cables, to support the large energy needs of these facilities. Additionally, there is a **rising demand for data & communication cables** to handle the **increasing data traffic and ensure high-speed, low-latency communication** between servers.

These cables enable efficient data transfer, which is critical for data centers to operate smoothly. Furthermore, demand for specialized cables, such as copper and hybrid cables, is expected to rise, as they are used for power distribution and interconnection between various components within the data centers. Thus, the growth in data centers directly drives the need for cables that ensure reliable and efficient power and data transmission.

Table 12-1: Key Pipeline Projects for Data Center Sub-Sector Construction in India

Project Name	Project Cost (USD Mn)	Implementation Date	Completion Date
Smart metering Infrastructure Development, North Zone, Shimla, Himanchal Pradesh	North Zone: 76.16	Apr 2023	Apr 2033
Smart metering Infrastructure Development, Central Zone, Shimla, Himanchal Pradesh	75.02	Apr 2023	Apr 2033
Smart metering Infrastructure Development, South Zone, Shimla, Himanchal Pradesh	74.73	Apr 2023	Apr 2033
Installation and Commissioning of IT Infrastructure and VAT Soft Migration to Mizoram State Data Centre	24.53	Jan 2023	Mar 2025

Source: Central Energy Authority

EXPANSION OF RAIL INFRASTRUCTURE IN INDIA BOOMING MARKET DEMAND

The **expansion of rail infrastructure** in India is fueling unprecedented demand for power infrastructure and cables. Thereby, creating a booming market for cable manufacturers. As the government rolls out ambitious projects such as the **redevelopment of 508 railway stations, the manufacturing of 400 Vande Bharat trains,** and the **expansion of high-speed and metro rail networks,** the requirements for advanced cable systems have skyrocketed.

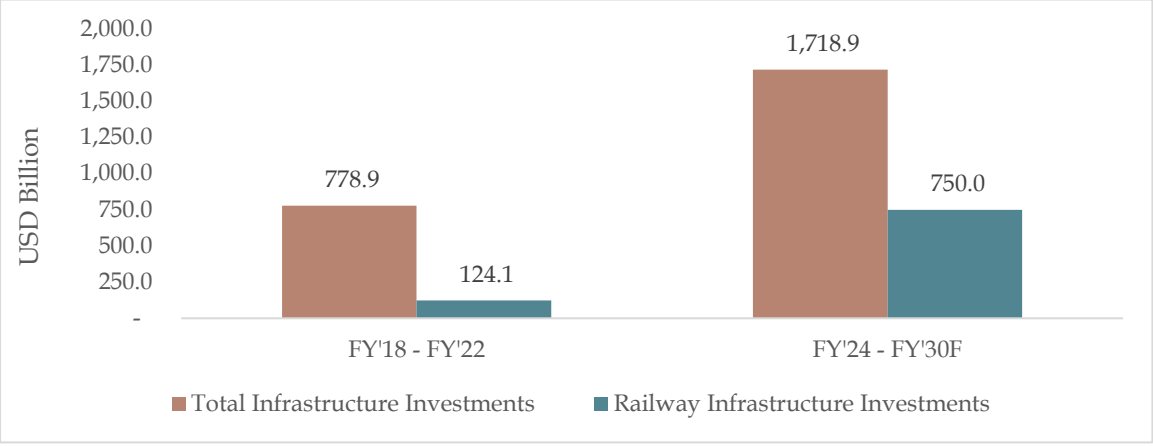
Railway electrification, which is a critical part of these projects, demands high-performance cables such as medium- and high-voltage cables for power transmission. With **over 2,000 km of network** slated to be equipped with Kavach, an indigenous safety system, specialized signaling cables are in high demand. These cables are crucial for ensuring operational efficiency and safety in the rapidly expanding rail network. Additionally, **station redevelopment projects** require low-voltage armored

cables for lighting, HVAC, and other utilities, ensuring resilience and fire resistance in crowded environments.

Government **initiatives like the "Make in India" campaign** and targeted **capital expenditures of INR 2.52 lakh Cr., (USD 30.33 billion) for FY 2024-25** provide substantial momentum to cable manufacturing. The rollout of smart stations and metro projects in 20 cities further accelerates the demand for fiber-optic cables to support digital infrastructure.

As **India aims to modernize its railways with high-speed trains, multimodal logistics hubs**, and upgraded facilities, the demand for diverse cable solutions is expected to grow exponentially. By 2029, with the completion of mega projects like the Mumbai-Ahmedabad high-speed corridor, the market for medium- and high-voltage cables, as well as specialized signaling cables, will expand, creating sustained revenue opportunities for cable manufacturers in India.

Figure 12-2: India Railways Vs Total Infrastructure Investments (USD Billion), FY'18-FY'22 & FY'24-30F

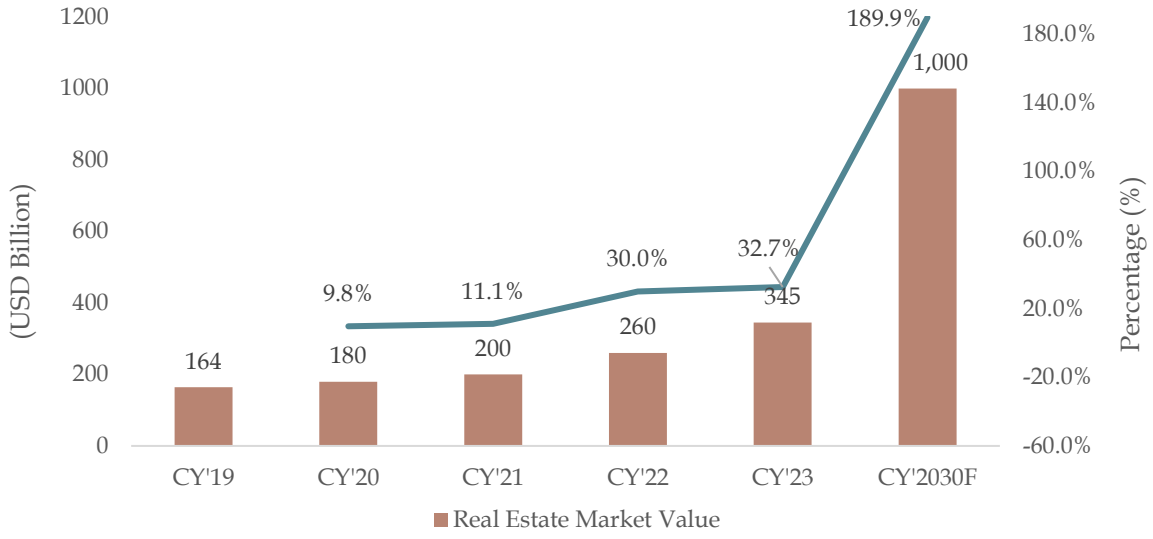


Source: CRISIL Infrastructure Yearbook 2017, Economic Survey 2019-20, Railway Book
Note 1: F refers forecasted number
Note 2: The above figure represents financial year (April-March)

REAL ESTATE EXPANSION DIVING MARKET GROWTH IN INDIA

Real estate expansion in India is experiencing significant momentum, **driven by urbanization, population growth, rising disposable incomes, and government initiatives**. The surge spans across residential, commercial, retail, and hospitality sectors, fueled by increasing housing demand, e-commerce growth, IT sector expansion, and rising tourism.

Figure 12-3: India Real Estate Market in USD Billion, CY'19 – CY'23 and CY'30F

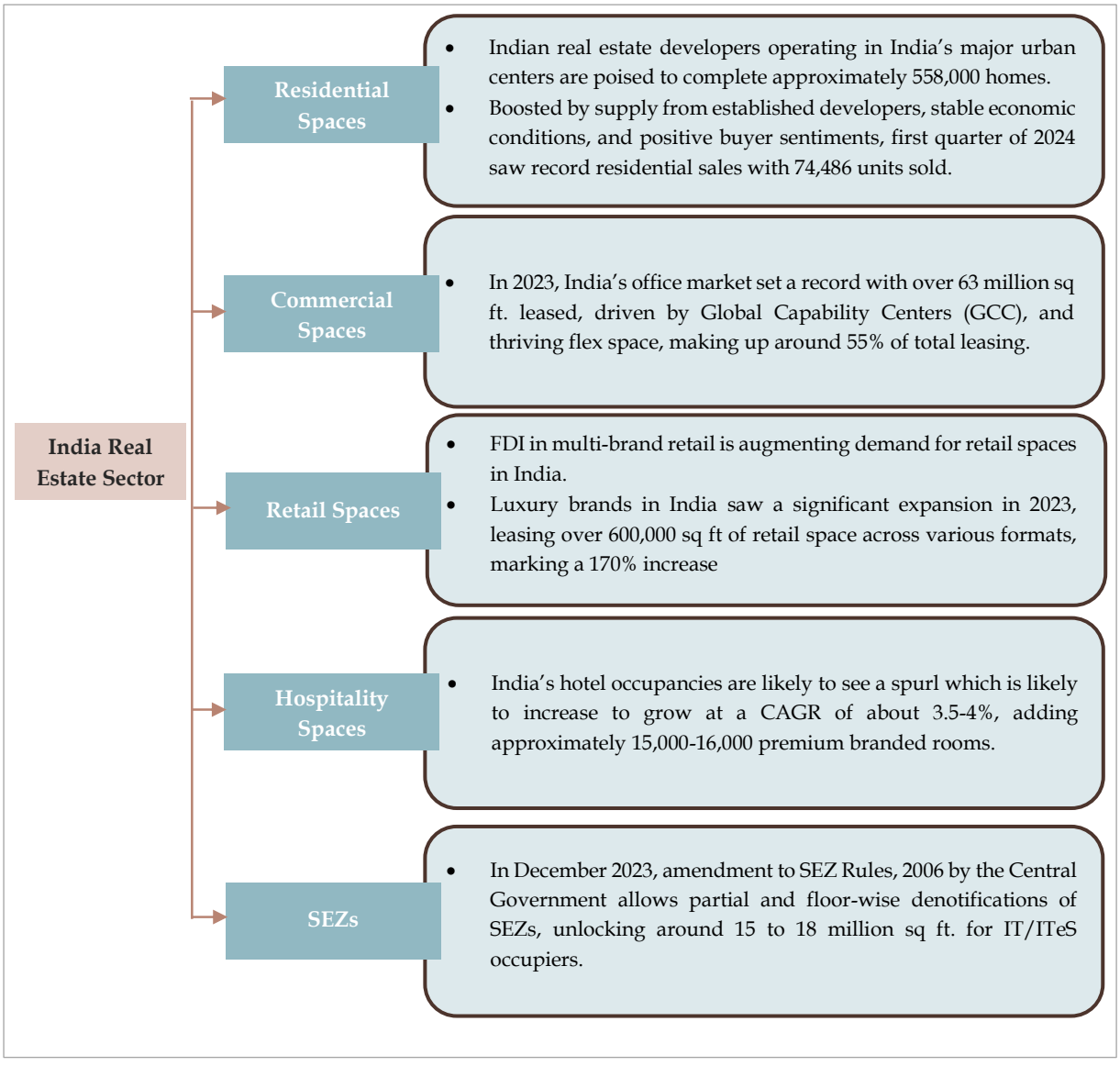


Source: Knight Frank, Ken Research Analysis
Note: F refers forecasted number
Note: Above mention years are Calendar Year starting from 1st January to 31st December

The expansion of India's residential sector, driven by urbanization and initiatives like the **PM Awas Yojana (targeting 2 Cr. urban homes by FY'25), is** boosting demand for electrical cables. As housing projects grow, the need for low- and medium-voltage cables, as well as armored cables for external connections, is rising. Smart homes and green buildings require fire-resistant, energy-efficient cables. Annual **urban housing growth is projected at 8-10% CAGR through FY'30.**

The commercial sector's growth, driven by office spaces and IT parks, is increasing the need for high-performance cables, including high-voltage and fiber-optic cables. The **Make in India program** and IT sector investments have led to 60 million sq. ft. office space absorption in FY'23. Armored cables are essential for outdoor installations. Energy-efficient buildings will further drive demand for advanced cabling solutions.

Figure 12-4: India Real Estate Sectoral Outlook



Source: Ken Research Analysis, Real Estate Industry Report, 2024

Malls Under construction in Tier-1 cities in India
25.0 Mn sq ft
Expected Completion 2026

India's retail sector is expanding with organized retail, e-commerce, and consumer spending, creating demand for low- and medium-voltage cables. The rise of smart malls is pushing for advanced cables like fire-resistant types. The organized retail sector is expected to **grow 10% annually through FY'25.**

The **hospitality sector is growing, with a 7.5% CAGR projected through FY'26,** boosting demand for medium- and low-voltage cables, including **LSZH and fire-resistant cables**. With USD 1.5 billion invested in hotel projects in FY'23, this sector will continue to drive demand for specialized cables. Industrial real estate also sees strong demand for high-voltage and medium-voltage armored cables. Government programs and private investments fuel this growth.

12.2. Key Trends in the Indian Market

GROWING DEMAND FOR SPECIALIZED CABLES

The increasing threats to **undersea cable infrastructure**, as highlighted by recent incidents in the Red Sea, have underscored the need for robust and secure submarine cable networks. In response, India is **expanding its undersea cable network** to enhance web resilience and secure its communication channels. Indian cable manufacturers are adapting to these challenges by innovating and investing in advanced materials, designs, and manufacturing processes to produce cables that can withstand such threats.

Manufacturers, such as Polycab India and KEI Industries, are investing in the development of heavily armored cables. These designs incorporate multi-layered steel and polymeric reinforcements to resist intentional sabotage and environmental wear. Additionally, enhanced insulation materials, such as cross-linked **polyethylene (XLPE) and polypropylene yarns**, are being used to

improve cable longevity and resistance to underwater threats, including corrosion from saltwater and biofouling. Telecom operators in India are increasing investing in this domain for resilient communication. For instance, **Bharat Sanchar Nigam Limited (BSNL) has collaborated with NEC Technologies India** to establish a submarine cable system connecting Chennai and the Andaman & Nicobar Islands. This project aims to provide high-capacity bandwidth, supporting voice and data connectivity, and is a significant step toward bolstering India's digital infrastructure.

Further, global tech companies are investing in expansive undersea cable projects that include routes through India. For instance, **Meta, in 2024, has announced plans to build a USD 10 billion undersea internet cable** spanning over 25,000 miles, connecting the East Coast of the U.S. to India via South Africa, and from India to Australia's U.S. West Coast. Such projects present opportunities for Indian cable manufacturers to collaborate and contribute to the global undersea cable infrastructure by offering advanced armored cables in these projects.

FOCUS ON ELECTRO BEAM TECHNOLOGY ENHANCING CABLE DEMAND

Cable manufacturers in India are increasingly adopting **Electron Beam (E-Beam) technology** due to its ability to produce cables with superior durability, performance, and safety. **Traditional cable manufacturing methods often face limitations** such as reduced thermal resistance, susceptibility to wear and tear, and lower environmental resilience. E-Beam technology overcomes these issues by cross-linking polymer chains in insulation and sheathing materials, enhancing thermal, mechanical, and chemical properties. This technology is particularly vital for sectors requiring high-performance cables, such as power transmission, renewable energy, railways, and electric vehicles (EVs).

Prominent manufacturers such as **Polycab, KEI Industries, and RR Kabel** are actively investing in E-Beam technology for research and production. Polycab, for instance, has established state-of-the-art E-Beam facilities to cater to energy, rail, and infrastructure sectors, while KEI Industries focuses on high-performance cables for power and solar applications.

E-Beam cables are ideal for railways, where they ensure enhanced fire safety, and renewable energy projects, offering long-lasting reliability under extreme conditions. With India's aggressive push towards green energy and EV adoption, E-Beam technology provides a competitive edge, enabling manufacturers to cater to these emerging demands while meeting global quality standards.

REPLACEMENT OF CONDUCTORS WITH CABLES OWING TO THE SURGE IN URBANIZATION

The surge in urbanization has significantly driven the demand for cables, particularly due to the replacement of traditional conductors with MV and HV cables. As cities expand, the need for more reliable, efficient, and safer electrical infrastructure increases. Cables, unlike traditional conductors, offer better insulation, enhanced safety, and higher efficiency in transmitting power over long distances, crucial for urban areas with dense populations. Urbanization also brings with it a rise in construction activities, requiring advanced electrical systems for residential, commercial, and industrial buildings. Cables are favored for their ability to handle higher electrical loads, withstand environmental factors, and reduce the risk of electrical hazards. Consequently, as cities modernize, the shift from overhead conductors to underground cables has become essential to support the growing demand for uninterrupted power supply, fueling the cable industry's growth.

12.3. Key Opportunities in the Indian Market

GROWING FOCUS ON FLOATING SOLAR

Floating solar technology is gaining momentum in India due to several compelling factors. The scarcity of land for large-scale solar installations has led to the exploration of alternative spaces, with water bodies offering a viable solution. By deploying solar panels on reservoirs and lakes, India can harness its abundant water resources for energy generation, effectively addressing land constraints and enhancing energy production. States like Madhya Pradesh are leading in the adoption of floating solar photovoltaic (FPV) technology. The state's favorable policies and abundant water bodies make it an ideal candidate for FPV projects, positioning it to play a pivotal role in India's renewable energy landscape.

The proliferation of floating solar installations is creating significant opportunities for the cable, wire, and conductor industry in India. These projects require specialized cables capable of withstanding harsh environmental conditions, including intense heat, UV radiation, and water exposure. Advanced construction materials are essential to ensure the durability and reliability of these cables in floating solar applications. As the demand for floating solar grows, so does the need for high-quality cables and connectors, driving growth in this sector.

SMART METERS DRIVING CABLE AND WIRE DEMAND

The Government of India's ambitious rollout of smart metering systems is significantly influencing the demand for cables, and wires across the nation. Initiated in 2021, the government aims to replace 250 million traditional electricity meters with smart prepayment meters,

positioning it as the world's largest Advanced Metering Infrastructure (AMI) program.

This extensive deployment necessitates a substantial increase in the production and supply of various electrical components, to support the advanced metering infrastructure.

The integration of smart meters is pivotal for modernizing India's power sector, offering benefits such as real-time data collection, enhanced billing accuracy, and improved energy management. However, the widespread adoption of smart meters also requires significant upgrades to the transmission and distribution (T&D) networks, including the installation of new cables to handle increased data and power flow. This infrastructure enhancement is expected to drive demand for advanced cables like cross-linked polyethylene (XLPE) cables.

Moreover, the government's focus on expanding renewable energy sources to achieve the target of 500 GW of renewable energy capacity by 2030 further amplifies the need for robust T&D infrastructure. Moreover, the government's focus on expanding renewable energy sources to achieve the target of 500 GW of renewable energy capacity by 2030 further amplifies the need for robust T&D infrastructure. The implementation of schemes like the Green Energy Corridors and Transmission Scheme for Renewable Energy Zones underscores the importance of strengthening the T&D network to integrate renewable energy into the grid effectively.

Thus, Government of India's smart metering initiatives and plans to enhance renewable energy infrastructure are acting as catalysts for increased demand in the cables market. The need to upgrade and expand the T&D network to support these advancements presents significant

opportunities for manufacturers and suppliers within the electrical components industry.

Table 12-2: India State wise Distribution Infrastructure & Smart Metering Works sanctioned (in INR Cr) under RDSS, 31st December 2024

States/ UTs	Consumer Meters	DT Meters	Feeder Meters	Sanctioned Cost of Smart Metering Works	Sanctioned Cost of Distribution Infrastructure Cost	Total Sanctioned Cost
Andaman & Nicobar Islands	83,573	1,148	114	54	462	516
Andhra Pradesh	56,08,846	2,93,140	17,358	4,128	10,687	14,814
Arunachal Pradesh	2,87,446	10,116	688	184	1,042	1,226
Assam	63,64,798	77,547	2,782	4,050	4,050	7,444
Bihar	23,50,000	2,50,726	6,427	2,021	8,406	10,427
Chhattisgarh	59,62,115	2,10,644	6,720	4,105	3,964	8,070
Delhi	NA	766	2,755	12	324	337
Goa	7,41,160	8,369	827	469	247	716
Gujarat	1,64,81,871	3,00,487	5,229	10,642	6,089	16,731
Haryana				NA	6,797	6,797
Himachal Pradesh	28,00,945	39,012	1,951	1,788	2,327	4,115
Jammu and Kashmir	14,07,045	88,037	2,608	1,064	4,771	5,835
Jharkhand	13,41,306	19,512	1,226	858	3,344	4,202
Karnataka				NA	34	34
Kerala	1,32,89,361	87,615	6,025	8,231	3,011	11,243
Ladakh	NA	NA	NA	NA	876	876
Madhya Pradesh	1,29,80,102	4,19,396	29,708	8,911	9,384	18,295
Maharashtra	2,35,64,747	4,10,905	29,214	15,215	17,209	32,424
Manipur	1,54,400	11,451	357	121	615	737
Meghalaya	4,60,000	11,419	1,324	310	1,232	1,542
Mizoram	2,89,383	2,300	398	182	319	500
Nagaland	3,17,210	6,276	392	208	461	668
Puducherry	4,03,767	3,105	180	251	84	335
Punjab	87,84,807	1,84,044	12,563	5,769	3,873	9,642
Rajasthan	1,42,74,956	4,34,608	27,128	9,715	17,427	27,142
Sikkim	1,44,680	3,229	633	97	416	514
Tamil Nadu	3,00,00,000	4,72,500	18,274	19,235	9,568	28,803
Telangana				NA	120	120
Tripura	5,47,489	14,908	473	319	598	917
Uttar Pradesh	2,69,79,056	15,26,801	20,874	18,956	21,612	40,568
Uttarakhand	15,87,870	59,212	2,602	1,106	1,717	2,823
West Bengal	2,07,17,969	3,05,419	11,874	12,670	7,223	19,893
Total	**19,79,24,902**	**52,52,692**	**2,10,704**	**1,30,671**	**1,47,635**	**2,78,306**

Source: Ministry of Power, Government of India

ROLLOUT OF MVCC INFRASTRUCTURE PLANS

Medium Voltage Covered Conductors (MVCC) are gaining traction as a key solution to enhance the safety, reliability, and resilience of power distribution networks. Currently, MVCC technology is being implemented in key Indian states—**Kerala, Tripura, North East States, Gujarat, and Uttarakhand**—where it is valued for its ability to reduce electrical accidents through insulation around conductors and improve network reliability in the face of extreme weather conditions.

Uttarakhand, with its challenging terrain and frequent natural disasters, has been an early adopter, using MVCC to ensure more dependable power distribution in remote areas. In Kerala and Gujarat, the technology is being used to address safety concerns in densely populated areas, where accidental contact with live wires is a significant risk. As a result, Kerala & Gujarat are witnessing improved system reliability, fewer outages, and less damage to infrastructure during storms or heavy rainfall.

However, with the continuous boom in deployment of these conductors led by several government projects and initiatives, **like the Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya)** are encouraging other states in India to adopt more reliable and safe power distribution systems. Thus, the adoption of MVCC technology is highly likely to expand, especially in rural and hilly regions where the demand for reliable power distribution is growing. States such as Madhya Pradesh, Assam, and Himachal Pradesh are expected to implement MVCC in the near future. With continued government support for rural electrification and safer power systems, MVCC is poised to become a standard solution across India, benefiting both consumers and the environment.

12.4. Major Government Projects and Schemes Affecting the Market Demand

Government initiatives, projects and schemes that impact the cable demand in India includes:

REVAMPED DISTRIBUTION SECTOR SCHEME (RDSS) (2021-2026)

The **Revamped Distribution Sector Scheme (RDSS),** launched in July 2021, is playing a crucial role in driving the demand for cables in India. The initiative aims to modernize the power distribution sector by reducing **Aggregate Technical & Commercial (AT&C) losses to 12-15%** and bridging the gap between Average Cost of Supply (ACS) and Average Revenue Realized (ARR) by 2024-25. With an **allocation of INR 3,03,758 crore from FY 2021-22 to FY 2025-26, including INR 97,631 crore in Gross Budgetary Support (GBS)** from the central government, RDSS is a comprehensive effort to upgrade infrastructure and improve efficiency.

The modernization process involves the replacement of outdated infrastructure, including the installation of smart meters, underground cables, and enhanced transformer capacities. As a result, the demand for cables is experiencing significant growth, driven by the need to support these technological upgrades. Additionally, the RDSS focuses on improving the financial health of distribution utilities, which directly impacts infrastructure investments, including cable installations.

This large-scale infrastructure overhaul not only helps reduce technical losses but also creates a robust demand for cables, which are integral to the improved power distribution system. Consequently, the RDSS is expected to

significantly boost the cable industry in India, fostering growth and contributing to the sector's modernization.

NATIONAL SMART GRID MISSION (NSGM)

The **National Smart Grid Mission (NSGM),** operational since 2015, is playing a pivotal role in driving the demand for cables in India. The mission aims to modernize the country's power distribution system by developing a robust, automated smart grid infrastructure that integrates advanced technologies like real-time monitoring, automated control, and data analytics. These upgrades are designed to enhance grid reliability, reduce transmission losses, and improve consumer engagement. Till **November 2023, around 1,69,330 smart meters were deployed under this project**. As India's is racing toward a 500 GW renewable energy target by 2030, **massive investments of about INR 2,442 billion** are expected to be made for grid expansion.

As smart grids are deployed across the country, they require substantial infrastructure changes, including the installation of high-quality cables for the seamless transfer of power and data. The expansion of smart meters, sensors, and automation systems also necessitates the use of advanced cabling solutions. The mission's focus on reducing transmission losses and improving grid efficiency further amplifies the demand for power, control, communication and instrumentation cables, as enhanced connectivity and monitoring require a strong, modernized cable network.

With the NSGM continuing its efforts through 2032, the demand for cables is expected to grow in tandem with the ongoing deployment of smart grid technologies. As the country shifts towards a more efficient and tech-driven power sector, the cable industry stands to benefit significantly from the implementation of this mission, making it a key contributor to India's energy transform.

GREEN ENERGY OPEN ACCESS RULES

Green Energy Open Access Rules of 2022, revolutionized access to renewable energy by enabling **consumers with a minimum load of 100 kW to purchase power** directly from generators, bypassing DISCOMs, and is particularly beneficial for Commercial and Industrial (C&I) users. The rule mandates setting up renewable energy projects such as solar and wind farms, which in turn requires robust electrical and transmission infrastructure.

Cables used in renewable energy projects (such as solar power plants, wind energy setups, and power grids) will see increased demand as India progresses towards cleaner energy sources. The integration of renewable energy projects into the national grid drives the need for specialized cables capable of handling high power loads and maintaining energy efficiency.

Figure 12-5: India Renewable Energy Capacity Addition in GW, 2025, 2027 & 2030

State	Phase I (By March 2025)		Phase II (By March 2027)		Phase III (By Dec 2030)		Total	
	Wind (GW)	Solar (GW)	Wind (GW)	Solar (GW)	Wind (GW)	Solar (GW)	Wind (GW)	Solar (GW)
Rajasthan	6	13	5	20	4	27	**15**	**60**
Madhya Pradesh	2	0	0	3.1	0	2.9	**2**	**6**
Maharashtra	2	3	0	0	0	2.5	**2**	**5.5**
Gujarat (offshore Wind)	0	0	2	0	3	0	**5**	**0**
Andhra Pradesh	4	8	7	11.5	7	13.5	**18**	**33**
Telangana	3	2	0	7.5	0	0.5	**3**	**10**
Karnataka	7	6	1	3	0	0	**8**	**9**
Tamil Nadu (offshore Wind)	0	0	2	0	3	0	**5**	**0**
Total	24	32	17	45.1	17	46.4	**58**	**123.5**
Total (S+W)	**56**		**62.1**		**63.4**		**181.5**	

Source: Central Electricity Authority (CEA)
Note: GW refers to Gigawatt

NATIONAL ELECTRICITY PLAN (2023-2032)

The National Electricity Plan (NEP) 2023-2032 is a crucial government initiative poised to significantly impact the cable industry in India. **With an estimated cost of Rs 9.15 lakh crore, the plan aims to expand the country's transmission network from 4.85 lakh ckm in 2024 to 6.48 lakh ckm by 2032.** This growth directly translates into increased demand for cables, particularly for high-voltage lines and infrastructure required to handle this expansion. The **plan's focus on renewable energy integration, with 280 GW of Variable Renewable Energy (VRE) to be evacuated by 2030,** further accelerates this demand. Cables are essential for facilitating the transmission of renewable energy, including offshore wind power in Gujarat and Tamil Nadu, and hydro power from Jammu & Kashmir.

Additionally, the **planned addition of 9 High Voltage Direct Current (HVDC) lines** and a significant increase in inter-regional transfer capacity—from 119 GW to 168 GW—necessitates the use of advanced, high-capacity cables for efficient power transmission. The expansion also covers key regions with renewable energy projects, such as Gujarat, Andhra Pradesh, and Rajasthan, which will require specialized cables for both power distribution and renewable energy evacuation systems. The ongoing **investments and project approvals, including Rs 60,676 crore for 50.9 GW** capacity transmission systems by 2032, make this initiative a key driver of growth for India's cable business.

POWER TRANSMISSION AND DISTRIBUTION UPGRADES (GREEN ENERGY CORRIDORS)

The development of **Green Energy Corridors** in India is playing a crucial role in driving the demand for cables, particularly in the power transmission and distribution sectors. Initiated in 2020, the project aims to establish dedicated transmission networks for the evacuation of

renewable energy from generation points to consumption centers. This initiative is integral to integrating renewable energy sources and enhancing cross-border power exchanges, thereby contributing to India's sustainability goals.

The Green Energy Corridors project plans to **add 20,000 circuit kilometers of transmission lines and 30,000 MVA of transformation capacity by 2025.** As of 2024, approximately 60% of the targeted infrastructure has already been completed, marking significant progress in renewable energy integration. With an increased focus on renewable energy generation, such as solar and wind power, the demand for reliable and efficient transmission infrastructure has surged.

The need for high-quality cables and transmission materials is directly proportional to the expansion of these corridors. Cables play a pivotal role in ensuring the seamless transmission of power, reducing energy losses, and maintaining grid stability. As the Green Energy Corridors project progresses, it will drive the demand for cables, creating new opportunities in the power infrastructure market.

PRADHAN MANTRI AWAS YOGNA (PMAY)

The **Pradhan Mantri Awas Yojana (PMAY)** is a transformative initiative aimed at providing affordable housing to both urban and rural populations in India. As of **July 2024, under PMAY Urban (PMAY-U), 118.64 lakh houses have been sanctioned, and 84.7 lakh have been completed,** contributing significantly to the demand for construction materials and infrastructure services. Furthermore, the recent **approval in August 2024 for the Pradhan Mantri Awas Yojana – Gramin (PMAY-G) will see the construction of an additional 2 crore houses by FY'29, with a financial outlay of INR 3.06 lakh crore.**

This massive housing drive is driving increased demand for various types of cables, particularly those related to electrical wiring and communication infrastructure. The rising construction activities under PMAY have spurred the need for power cables, including low and medium-voltage cables for electrical installations. Additionally, demand for data cables is growing, as new homes require modern communication systems, such as internet and telephone connections. With both urban and rural housing development, there is also a heightened need for specialized cables suitable for diverse environments, including harsh conditions in hill areas and the North Eastern region. As PMAY accelerates, the cable industry is set to witness sustained demand driven by the extensive infrastructural and housing projects underway.

SAGARMALA PROGRAMME (2015-35)

The **Sagarmala Programme, launched in 2015,** aims to enhance India's port infrastructure and boost its maritime sector through significant investments in port connectivity, coastal economic zones, and port modernization. This ambitious initiative is driving the growth of India's cable industry, particularly in the context of expanding port infrastructure and communication networks. **With 839 projects slated for implementation by 2035, totaling investments of approximately Rs. 5.8 lakh Cr.,** the need for advanced cabling solutions for both connectivity and power distribution is crucial.

The **focus on Public-Private Partnerships (PPP) and private sector involvement** has further accelerated demand for high-quality cables, especially for the vast infrastructure projects in ports and coastal areas. **As of April 2024, 167 projects worth Rs. 36 thousand Cr. are actively being implemented,** leading to substantial demand for cables in communication and electrification. This trend is expected to continue as the Sagarmala Programme progresses, with projections for further

escalation in the demand for specialized cables in line with the program's expansion.

The cable industry is witnessing increased demand for robust solutions, with projects in ports requiring high-performance cables for seamless operations. As the Sagarmala Programme unfolds, this dynamic is set to contribute significantly to the growth of India's cable industry.

PM SURYA GHAR: MUFT BIJLI YOJANA

The **PM Surya Ghar: Muft Bijli Yojana, launched in February 2024,** aims to **install 1 crore solar rooftops in India's residential sector by March 2027.** By January **2025, over 8.46 lakh households have already benefited** from rooftop solar installations, with an impressive rate of **around 70,000 installations per month**. This rapid pace of adoption is expected to have a significant impact on India's cable industry.

As the scheme promotes widespread solar adoption, there is an increasing demand for specialized cables to support the installation of solar panels. High-quality cables are essential for connecting solar systems to the grid, ensuring efficient power transfer and safety. The scale of this initiative, targeting 1 crore installations, translates directly into substantial demand for electrical cables, particularly those suited for solar energy systems.

The cable industry stands to benefit greatly, as the residential solar segment requires not only cables for power transmission but also those for integrating smart grids and enhancing energy storage solutions. By 2027, as the target is approached, the cable sector is poised to experience robust growth, **driven by the expansion of solar installations across millions of homes**. This government initiative aligns with the broader push for

renewable energy and green technologies, further accelerating growth in the cable industry.

NATIONAL ELECTRIC MOBILITY MISSION PLAN (NEMMP)

The **National Electric Mobility Mission Plan (NEMMP)** is a key initiative **to accelerate electric vehicle (EV) adoption in India, with a target of 30% EV penetration by 2030.** This ambitious goal is significantly driving the demand for infrastructure, particularly EV charging stations, which require specialized, high-performance cables to handle the increased power loads. The Indian government's plan to develop over 3.9 million semi-public EV charging stations by 2030 is a substantial part of this push. **The number of operational public charging stations has already surged from 6,586 in March 2023 to 12,146 by February 2024**, as per Ministry of Power data. This rapid expansion of charging infrastructure has created a pressing need for durable, high-quality cables that can safely manage high-voltage applications.

These cables are essential for ensuring efficient, reliable power transfer to EVs and supporting the growing network of charging stations across the country. As the EV market continues to scale, the demand for such specialized cables will only increase, positioning the cable industry as a critical player in India's electric mobility transformation. The NEMMP is thus pivotal in driving long-term growth for the cable sector, particularly in the context of renewable energy integration and the transition to sustainable transportation.

SMART CITIES MISSION

The **Smart Cities Mission**, launched by the Government of India in June 2015, is transforming urban landscapes by focusing on sustainability, improved infrastructure, and enhanced living standards. With **plans to develop 100**

smart cities across the country, this initiative is driving a surge in demand for cables, especially in the areas of digital and electrical infrastructure. As these cities integrate advanced technologies like smart grids, intelligent lighting systems, and sophisticated surveillance networks, there is an increasing need for high-quality cables capable of supporting such robust infrastructures.

The shift towards smart grids and other advanced urban systems necessitates durable, high-performance cables that can handle the growing demand for connectivity and energy efficiency. With the **Smart Cities Mission's projected funding of approximately INR 2.5 lakh crore (around USD 35 billion),** the cable industry is expected to benefit significantly from this growth. As of **December 2024, 91% of the smart city projects (7,380 out of 8,075 projects) are completed with INR 147,704 Crore invested for newer developments.**

As cities evolve into technology-driven hubs, the demand for specialized cables continues to rise, propelling the growth of the cable sector. The Smart Cities Mission is thus a key factor in the expansion of cable infrastructure, ensuring that India's urban spaces are future-ready.

BHARATNET PROJECT

The **Bharat Net project**, launched by the Indian government, aims to provide high-speed broadband connectivity to rural areas, with the goal of connecting over rural India. **As of 2024 around 2,14,323 Gram Panchayats are connected through the BharatNet project and 6,92,676 Km of OFC has been laid. Additionally, 12,21,014 Fibre-To-The-Home (FTTH) connections** are commissioned and **1,04,574 Wi-Fi hotspots** are installed to ensure last-mile connectivity by 2025. This ambitious initiative is expected to drive a significant surge in demand for various types of cables, particularly optical fiber cables. Optical fiber cables are central to delivering fast and reliable internet services,

especially in remote regions where traditional infrastructure is limited.

In addition to optical fiber cables, the Bharat Net project also calls for a variety of specialized cables to support the underlying network systems, including power cables and copper cables for hybrid connections. As the project progresses, there will be increased demand for robust, durable, and high-capacity cables that can withstand diverse environmental conditions and ensure uninterrupted connectivity in rural regions. The Bharat Net project is thus playing a critical role in driving the cable sector's growth in India, helping bridge the digital divide across the country.

ATMANIRBHAR BHARAT ABHIYAN

The **Aatmanirbhar Bharat Abhiyan**, launched to promote self-reliance in India, is significantly impacting the cable industry by encouraging domestic manufacturing and reducing reliance on imports. One of the key aspects of this initiative is the emphasis on boosting local production across various sectors, including electrical and communication cables. As the government promotes **"Make in India,"** there is a rising demand for high-quality, cost-effective cables manufactured within the country.

Additionally, the government's support in the form of incentives, such as the **Production-Linked Incentive (PLI) scheme,** has attracted more investments in cable manufacturing, helping companies scale production capacities. This has not only improved product availability but also reduced costs, making cables more affordable. As a result, the Aatmanirbhar Bharat Abhiyan is fueling long-term growth and technological advancement within India's cable industry.

BHARATMALA PRIYOJNA

The Bharatmala Pariyojana is playing a pivotal role in shaping India's infrastructure and significantly driving demand for various types of cables. The project**, aimed at constructing 34,800 km of roads across 31 states and UTs,** including economic corridors, feeder routes, and inter-state corridors, is creating an extensive need for cables in communication, power distribution, and traffic management systems. **As of now, 26,425 km has been awarded, with 17,411 km already constructed, reflecting the scale and progress of the project.**

The **development of about 26,000 km of economic corridors,** along with enhancements to the **Golden Quadrilateral (GQ) and North-South and East-West (NS-EW) Corridors,** will handle most of the freight traffic, requiring sophisticated electrical and communication networks for operational efficiency. These corridors will require cables for power supply, telecom infrastructure, and smart systems for traffic monitoring and management.

The inclusion of 8,000 km of interstate corridors and 7,500 km of feeder routes is expected to further strengthen connectivity, which will drive up demand for power cables, data transmission cables, and other specialized cabling for infrastructure projects. With **an estimated cost of INR 6,92,324 crore,** funded through a combination of public and private investments, the Bharatmala Pariyojana's ongoing development is poised to significantly boost the cables business, especially as Phase-I is expected to be completed by FY'28.

13. Market Challenges And Threats

13.1. Key Challenges In The Market

The Indian cable manufacturing industry **faces significant supply chain challenges** due to its reliance on raw materials like copper, aluminum, and PVC, which are prone to price fluctuations and global disruptions. For instance, rising copper prices have increased production costs, and delays in raw material procurement often led to project setbacks. Additionally, **high-voltage cables (Above 33kV) face stock management challenges** due to their high cost and long delivery timelines. **Logistics issues, including transportation costs and damage risks,** further complicates operations, especially for bulk shipments. To mitigate these challenges, manufacturers must adopt strategic sourcing, inventory management, and improved logistics solutions.

SUPPLY CHAIN CHALLENGES WITH RAW MATERIALS

The Indian cable manufacturing industry faces a **significant dependency on raw materials like copper, aluminum, and PVC,** which are prone to price fluctuations and supply chain disruptions. **Copper prices, for instance, have increased by approximately 20-30% globally** in the past few years, directly impacting production costs.

Delays in procurement due to limited domestic mining capabilities and reliance on imports often result in stalled production cycles. For example, a **delay of even 2-3 weeks in raw material availability** can disrupt project timelines by months, especially for large-scale infrastructure projects. The situation worsens during global crises, such as the COVID-19 pandemic, where supply chains were disrupted for nearly six months. To counter this, manufacturers must explore vertical integration, long-term

contracts with suppliers, and diversify sourcing strategies to ensure raw material stability.

TRANSPORTATION AND LOGISTICS ISSUES

Transporting cables is not only cost-intensive but also fraught with risks due to their size, weight, and susceptibility to damage. For example, transporting 5 kilometers of medium-voltage cables can cost INR 3-5 lakh depending on the destination and handling requirements. Furthermore, inadequate logistics infrastructure in rural and semi-urban areas, where new infrastructure projects are burgeoning, causes delays and damage during transit. High-voltage cables, which are delicate and require specialized packaging, **face a damage rate of up to 5% during transportation,** leading to losses for manufacturers.

Additionally, rising diesel prices—up by nearly 30% in the last five years—have increased freight costs, further squeezing profit margins. Implementing regional manufacturing hubs, adopting rail logistics for cost-efficiency, and investing in damage-proof packaging are potential strategies to mitigate these challenges.

PRE-QUALIFICATION REQUIREMENT

Pre-qualification requirements serve as a significant entry barrier for cable manufacturers in India, especially for those attempting to enter government or large-scale industrial contracts. These requirements typically involve stringent technical, financial, and quality certifications that ensure the manufacturer can meet specific standards and performance expectations. For new or smaller companies, meeting these standards can be a costly and time-consuming process. They may lack the resources to invest in high-quality materials, advanced manufacturing technology, or comprehensive testing protocols required to pass pre-qualification evaluations.

Additionally, established players with existing certifications and reputations benefit from a competitive advantage, as they can secure contracts more easily. For new entrants, the need for extensive documentation, testing, and compliance with regulatory frameworks can deter potential market participants. This not only limits their market access but also increases their operational and financial risks, making it harder to scale quickly. In an industry where trust, reliability, and compliance are crucial, navigating the pre-qualification process is a significant hurdle for new manufacturers.

13.2. Key Threats in the Market

India's cable manufacturers face significant threats from the **increasing adoption of bus bar trunking systems**, which offer enhanced efficiency, space savings, and lower maintenance compared to traditional cables. This shift reduces demand for cables in sectors like data centers and healthcare. Additionally, **competition from unorganized players** and low-cost imports, particularly from China, undercuts price and impacts local manufacturers' market share. To stay competitive, manufacturers must focus on innovation and quality to differentiate themselves.

REPLACEMENT OF TRADITIONAL CABLES WITH BUS DUCT TRUNKING

Bus duct trunking systems are increasingly replacing traditional cables in industrial and commercial applications due to their **efficiency, space-saving design, and lower maintenance requirements**. Bus ducts provide better power distribution in high-rise buildings, data centers, and factories, where space constraints and energy efficiency are critical. Thus, key industries such as healthcare facilities and data centers across the country are now adopting bus dust trucking replacing cables.

This trend poses a direct threat to the cable manufacturers as it reduces demand for traditional cable products. Additionally, the longer lifecycle and higher reliability of bus duct systems limit repeat purchases, further shrinking market opportunities. Manufacturers need to innovate by developing cables with improved durability, fire resistance, and energy efficiency to compete with bus duct trunking systems.

COMPETITION FROM UNORGANIZED SECTOR AND LOW-COST IMPORTS

The unorganized sector and low-cost imports pose significant threats to the Indian cable industry. Unorganized players, accounting for about 30-40% of the market, often undercut prices by compromising on quality, which affects the credibility of established manufacturers. Simultaneously, cheaper imports, particularly from China, flood the market and offer significant price advantages due to economies of scale. For example, **imported cables can cost 10-15% less than domestically manufactured ones**, making it challenging for local manufacturers to compete. Stricter quality standards and anti-dumping policies are essential to protect domestic players and maintain market share.

REPLACEMENT OF MULTICORE CABLES IN MAJOR INDUSTRIES

The replacement of multi-core cables with newer technologies in major industries poses both a challenge and a threat to the Indian cable industry. As sectors such as telecommunications, power distribution, and automotive are adopting alternatives like fiber optics, single-core cables, and smart cables, the traditional cable manufacturing sector faces significant disruption.

One of the major challenges is the potential loss of market share for manufacturers that rely heavily on multi-core

cables. As fiber optics and single-core cables become more prevalent, especially in telecom and power distribution, companies in India must adapt to meet the evolving demand for more advanced, specialized cables. This shift requires significant investment in R&D and innovation to produce next-generation products, which could strain smaller or less agile manufacturers.

Furthermore, the ongoing trend towards smart cables in automation, robotics, and electric vehicles requires the Indian cable industry to modernize its manufacturing techniques. This transformation is not only capital-intensive but also presents a steep learning curve for companies transitioning from traditional cable types to highly specialized solutions. Companies like KEI Industries and Polycab, while innovating, must also tackle the rising cost of raw materials, such as copper, which could further complicate production.

Lastly, the shift towards environmentally-friendly cables driven by regulatory pressures may impose additional costs on manufacturers, who need to meet these evolving standards while maintaining competitiveness in a rapidly transforming market.

Thus, the Indian cable industry must quickly adapt to these technological changes, focusing on innovation and sustainable practices, or risk being outpaced by global competitors and technological shifts.

14. Competition Landscape

14.1. Key Factors Shaping the Competition

The Indian cables market is a dynamic and competitive industry that plays a crucial role in powering the nation's infrastructure, communication networks, and industrial growth. Several key factors influence competition in this sector, including product quality, regulatory compliance, technological innovation, pricing strategies, and customer service. As India's economy continues to grow, so does the demand for high-performance cables that meet the requirements of modern industries such as power distribution, telecommunications, construction, and transportation.

PRODUCT QUALITY AND STANDARDS COMPLIANCE

The cables market in India is highly regulated, with strict requirements for safety, performance, and durability. Manufacturers must adhere to Indian and international standards such as ISI, ISO, and IEC certifications. Quality plays a significant role in maintaining customer trust, particularly in critical sectors like power distribution and telecom, where the reliability of cables directly affects operations.

As the demand for high-quality cables rises, companies are increasingly investing in research and development (R&D), advanced manufacturing techniques, and stringent testing processes (NABL) to ensure their products meet the necessary standards. With a growing emphasis on renewable energy, smart cities, and infrastructure projects, the demand for specialized cables that offer better efficiency, lower energy losses, and enhanced safety is also increasing.

TECHNOLOGICAL ADVANCEMENTS

Technological innovation is another key factor that drives competition in the cables market. The industry is shifting towards cables that are more energy-efficient, fire-resistant, and capable of withstanding extreme environmental conditions. Cables used in sectors like renewable energy and electric vehicles require cutting-edge technology for better performance.

To stay ahead, various cable manufacturers are working on R&Ds for newer and enhanced product offerings, such as Cross-Linked Polyethylene (XLPE) Insulation, Zero-Halogen (LSZH) Cables, etc., and ensure that their products integrate seamlessly with smart grids, solar power systems, and other next-gen technologies. Keeping pace with these trends gives a competitive edge, allowing companies to cater to new and growing market segments.

COST AND PRICING COMPETITIVENESS

While quality and compliance are essential, the price point remains a significant factor for customers. The Indian cables market is price-sensitive, with a large segment of customers looking for cost-effective solutions without compromising on quality. This price sensitivity is particularly evident in the industrial and infrastructure sectors, where large-scale projects demand bulk orders at competitive prices.

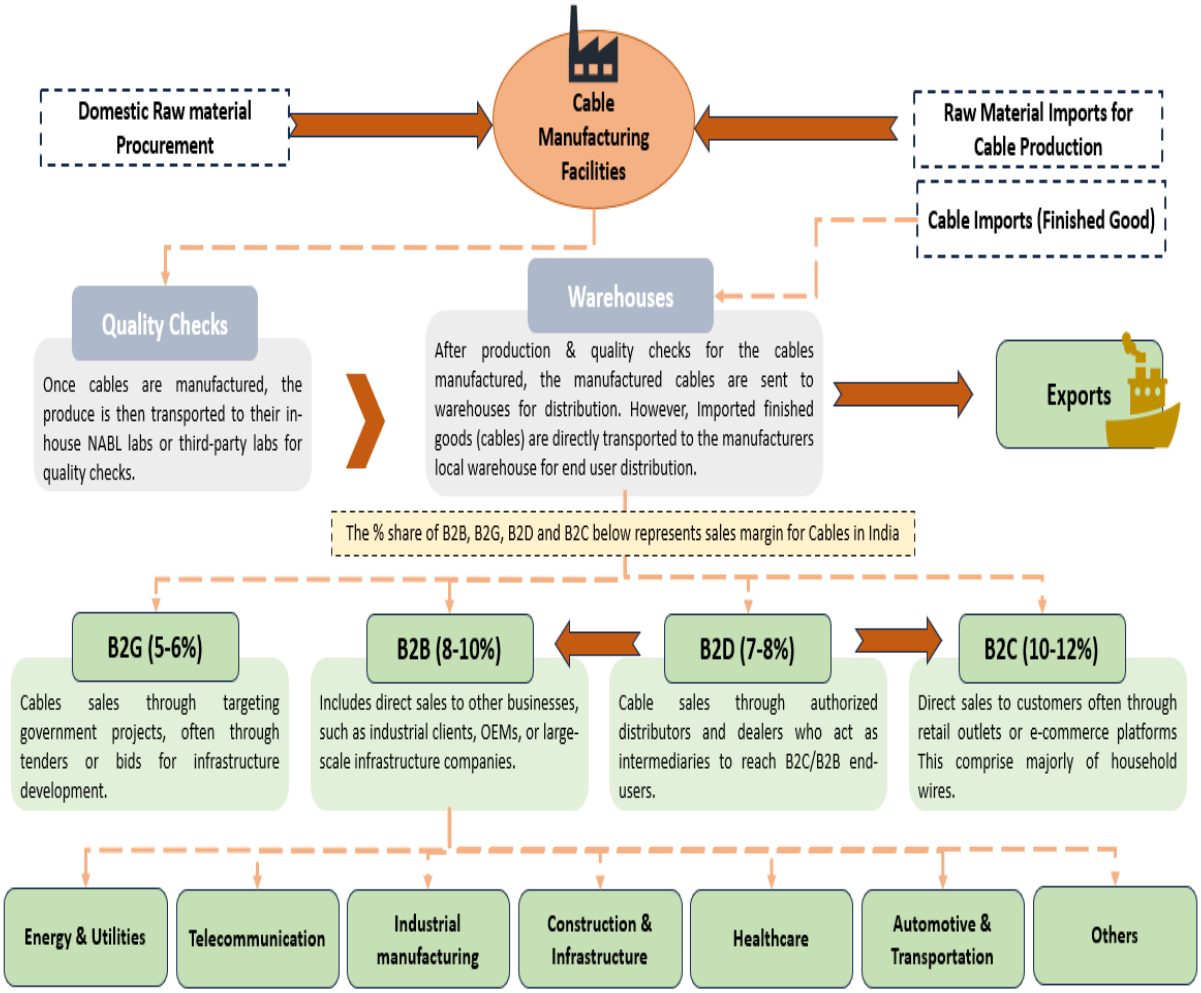
This creates significant pressure on manufacturers to optimize production processes, reduce material costs, and streamline supply chains to offer competitive prices while safeguarding profit margins.

14.2. India Cable Industry-Business Model

The cable industry's business model revolves around manufacturing cables using domestic and imported raw materials. After production, stringent quality checks are conducted in in-house or third-party labs to ensure adherence to standards. The finished products are distributed via warehouses for domestic use or exports.

The revenue model highlights gross profit margins from various sales channels: B2B (8–10%), focusing on industrial clients and infrastructure projects; B2G (5–6%), targeting government tenders and projects; B2D (7–8%), relying on authorized distributors and dealers to reach end users; and B2C (10–12%), which generates the highest margins through direct sales to consumers via retail outlets and e-commerce platforms, particularly household wires.
End-use industries served include Energy & Utilities, Telecommunication, Industrial Manufacturing, Construction & Infrastructure, Healthcare, Automotive & Transportation, and others. This diversified approach ensures steady profitability, of the cable manufacturers with the continued modernization and infrastructure development across these sectors.

Figure 14-1: Business Model of Cable Industry in India



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note: Above mentioned Margin are the Net Margins

14.3. Positioning of Prime Cables In India Cables Industry

The India cables market is highly competitive, with over 100 manufacturers operating in the country. Major players such as Polycab India, Finolex, RR Kabel, KEI Industries, and Havells collectively account for more than 60% of the market demand. Additionally, there is a substantial presence of small and medium-sized players, including companies like Prime Cables, Dynamic Cables, V-Marc, and others, who cater to local and regional consumer bases.

A key factor driving success in the industry is the investment in NABL (National Accreditation Board for Testing and Calibration Laboratories) accredited laboratories. These labs help manufacturers meet international quality standards, boosting customer confidence and facilitating approvals from global vendors. Companies such as Prime Cables, with in-house NABL-certified testing capabilities, can position themselves strategically to meet stringent quality and compliance standards required for government tenders, particularly in sectors such as railways, power, and infrastructure.

Manufacturers that can ensure faster testing cycles, superior quality assurance, and eligibility for high-value contracts gain a competitive edge. Vendor approvals from key organizations, including government and semi-government bodies as well as major private sector players, enhance credibility and streamline procurement processes, reinforcing their position in the market. This strategic approach enables companies such as Prime Cables to strengthen their presence in the B2B segment and capture government contracts, helping to maintain competitiveness in the evolving cable manufacturing market.

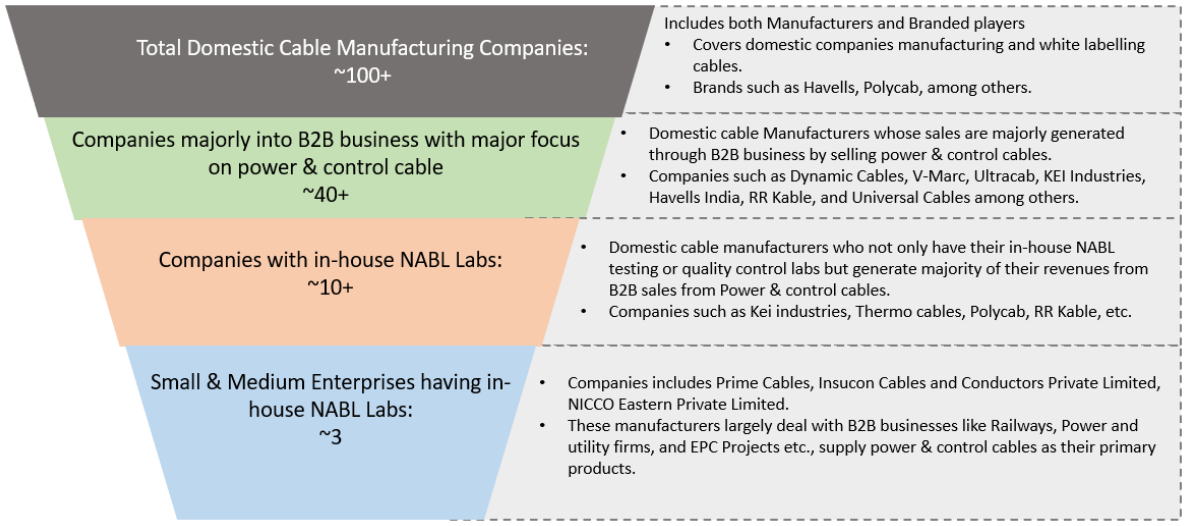
Further, the pre-qualification requirement (PQR) based on capacity, past supplies, and performance certificates is a significant advantage for cable manufacturers like Prime Cables in India's competitive cable industry. These requirements are crucial when competing for large government or institutional contracts, which often involve stringent criteria for approval. For instance, having a proven track record in fulfilling large-scale orders or having the capacity to meet high-volume demands is often essential for securing tenders, especially in sectors like power, railways, and infrastructure.

Thus, meeting these pre-qualification standards not only demonstrates the cable manufacturer's operational reliability but also positions them as a trusted partner for

large, high-value contracts. Companies that can showcase past successful deliveries and strong performance records in similar projects gain an edge in the approval process, often reducing procurement time for government and semi-government organizations.

By meeting these requirements, cable manufacturers like Prime Cables build a reputation for reliability and consistency, making them a preferred supplier for critical infrastructure projects. This pre-qualification advantage provides them with better access to lucrative contracts, thereby enhancing their position in the B2B sector and helping them grow their market share in a highly competitive environment.

Figure 14-2: Positioning of Prime Cables Against Competitors



Source: Ken Research Analysis

14.4. Cross-Comparison of Major Players in India Cable Market

A significant number of global and Indian players are well placed in the India's Cable manufacturing business. Some of the key competitors competing in the country's cables space are benchmarked on the basis of operational and financial parameters as follows:

OPERATIONAL PARAMETERS COMPARISION

Table 14-1: Cross-Comparison of Major Cable Manufacturers in India on Basis of Operational Parameters, 2024

Company	Inception	Headquarter	Ownership	Product Range
V-Marc India Limited	1996	India	Private	Data & communication cables, HT/LT cables, Ligh Duty cables, geysers, MCB's, e-Beam
Ultracab India Ltd.	2007	India	Private	Power Cables, Control & Instrumentation Cable, Telecom Cables and Specialty cables
Dynamic Cables	1986	India	Private	Conductors, AB Cables, Power Cables, Control cables, Concentric Cables, Signaling Cables

Source: Ken Research Analysis, Companies' Websites, Annual Reports, Proprietary Databases

COMPETITORS FINANCIAL KPI'S COMPARISION

Table 14-2: Cross-Comparison of Major Cable Manufacturers in India on basis of Financial Parameters, FY'22 – FY'24 and 9 Months FY'25 (1/2)

Company	Financial Year	Revenue From Operations (INR Cr)	EBITDA	EBITDA Margin	PAT	PAT Margin
V-Marc India Limited	FY'25	NA	NA	NA	NA	NA
	FY'24	564.72	66.66	11.78	26.85	4.75%
	FY'23	247.29	27.19	10.88	10.45	4.18%
	FY'22	181.02	15.91	8.74	4.99	2.74%
Ultracab Wires	FY'25	166.48	14.57	8.74	7.33	4.40%
	FY'24	124.06	13.31	10.70	5.98	4.81%
	FY'23	107.36	12.43	11.54	5.82	5.40%
	FY'22	85.13	8.92	10.46	3.15	3.69%
Dynamic Cables	FY'25	694.19	67.45	9.65	41.26	5.90%
	FY'24	768.00	81.15	10.52	37.77	4.90%
	FY'23	668.63	65.52	9.75	31.01	4.62%
	FY'22	563.57	62.94	11.11	30.90	5.46%

Source: Ken Research Analysis, Companies' Websites, Annual Reports, Proprietary Databases
Note 1: FY'24 indicates financial year which starts from 1st April 2023 and ends on 31st March 2024
Note 2: FY'25 indicates financial year for 9 months starting from 1st April 2024 and ends on 31st December 2025
Note 3: NA indicates information Not Available

Table 14-3: Cross-Comparison of Major Cable Manufacturers in India on basis of Financial Parameters, FY'22 – FY'24 and 9 Months FY'25 (2/2)

Company	Financial Year	Return on Equity	ROCE (%)	Debt-Equity Ratio	Working capital Cycle (Days)
V-Marc India Limited	FY'25	NA	NA	NA	NA
	FY'24	28.84%	23.40%	3.10	59.35
	FY'23	14.02%	15.96%	2.00	135.18
	FY'22	8.97%	10.29%	1.75	168.63
Ultracab Wires	FY'25	NA	NA	1.42	NA
	FY'24	17.09%	14.02%	0.83	263.25
	FY'23	20.01%	17.78%	1.70	202.72
	FY'22	12.79%	12.64%	2.16	287.85
Dynamic Cables	FY'25	NA	NA	NA	NA
	FY'24	19.30%	21.47%	1.31	88.85
	FY'23	19.08%	22.32%	1.26	76.40
	FY'22	23.34%	24.35%	1.35	95.61

Source: Ken Research Analysis, Companies' Websites, Annual Reports, Proprietary Databases
Note 1: For Working Capital Cycle (days) we have only considered inventory debtors and creditors, we have not taken any other liabilities
Note 2: FY'24 indicates financial year which starts from 1st April 2023 and ends on 31st March 2024
Note 3: NA indicates information Not Available
Note 4: FY'25 indicates financial year for 9 months starting from 1st April 2024 and ends on 31st December 2025

15. WAY FORWARD

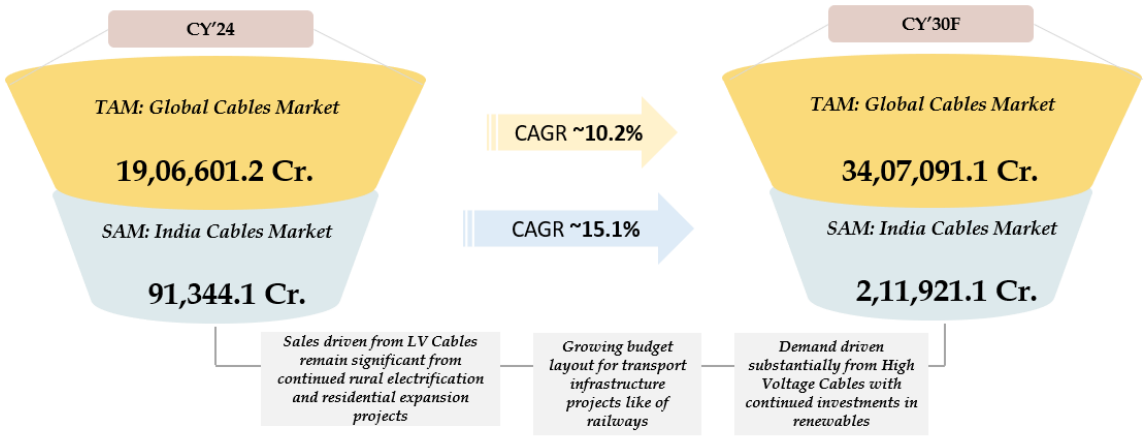
15.1. FUTURE MARKET GROWTH ATTRACTIVENESS OF THE INDUSTRY

The **India Cable Industry is set for robust growth, projected to expand at a CAGR of 15.1%,** reaching approximately INR 2,11,921.1 Cr., by CY'30. This growth is driven by rapid urbanization, infrastructure development, rural electrification, and renewable energy projects under government initiatives like "Make in India" and "Power for All." The rising adoption of electric vehicles (EVs) and the development of EV charging infrastructure further boost demand for advanced cables. Additionally, stricter BIS and IEC standards are pushing manufacturers to innovate with fire-retardant, halogen-free, and sustainable cables.

Segment-wise, high-voltage (HV) and medium-voltage (MV) power cables are expected to see strong demand due to grid upgrades and renewable energy transmission requirements, while low-voltage (LV) cables will grow significantly in residential and commercial sectors. The specialty cable segment, including fiber optics and fire-resistant cables, will benefit from expansions in telecom, defense, and industrial automation.

Key players such as Polycab India Limited, Havells India Limited, and KEI Industries Limited dominate the market with economies of scale, innovation, and export capabilities. Mid-sized firms like Prime Cables can leverage opportunities in cost-effective, high-quality products tailored to emerging demands such as renewable energy, smart grids, and IoT-based systems. By investing in R&D, enhancing its product portfolio, and expanding distribution networks, Prime Cables is well-positioned to capture domestic and export markets. This strategic focus will drive significant revenue growth and strengthen its competitive position in the rapidly evolving cable industry.

Figure 15-1: Target Market Opportunity for Prime Cables in INR Cr., CY'24 & CY'30F



Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
TAM: Target addressable market; SAM: Serviceable addressable market and SOM: Serviceable obtainable market
Note: F refers Forecasted
Note: CY represents Calendar Year (January-December)
Note: The above market is in INR Crores

15.2. Potential of Domestic Manufacturing & Assembly

India's cable and wire industry holds significant potential for international exports, driven by competitive manufacturing capabilities, high-quality standards, and strong demand for power and specialty cables globally. Leading manufacturers such as **Polycab India Limited**, **KEI Industries Limited**, **Finolex Cables**, **RR Kabel**, and **Universal Cables Limited** are actively contributing to exports. Polycab, for instance, exports to over 60 countries and has established a strong presence in the Middle East, Africa, and Southeast Asia. KEI Industries has similarly strengthened its export portfolio, with a focus on Europe and North America. These players leverage India's cost-competitiveness, skilled labor, and growing domestic production of raw materials like copper and aluminum.

Table 15-1: Exports Revenue of some of the Leading Cable Manufacturers in India (INR Cr.), FY'20-FY24

Players	Number of Exporting Countries	FY'20	FY'21	FY'22	FY'23	FY'24
RR Kable	63	502	583	1,007	1,270	1,542
KEI Industries	60+	879	627	585	693	1,059
Havells	70+	317	361	504	294	334
Finolex	USA and UAE	26	31	28	39.9	35.3
Polycab	70+	1,095	747	842	1,383	1,443

Source: Interviews with Industry Experts, Industry Articles & Ken Research Analysis
Note: For RR Kabel, KEI, Finolex and Polycab, 100% of exports come from wires and cables, whereas for Havells 60% of exports come from wires and cables

The Indian government's ambitious target of achieving **USD 2 trillion in total exports by 2030** further supports this growth. Initiatives like the **Production Linked Incentive (PLI) Scheme**, **Maske in India**, and **Export Promotion Capital Goods (EPCG) Scheme** are encouraging manufacturers to scale up production for global markets. Special economic zones (SEZs) and free trade agreements (FTAs) with regions such as ASEAN, Africa, and Europe also enhance India's export competitiveness.

To meet global demand, Indian cable manufacturers are investing in R&D for innovative products such as fire-resistant cables, fiber optics, and halogen-free cables, while expanding capacities. For example, **Polycab** and **RR Kabel** have announced significant expansions in export-oriented manufacturing facilities. With increasing infrastructure investments worldwide, particularly in renewable energy and telecom sectors, India is well-positioned to emerge as a global leader in cable and wire exports.