



# GREEN ENERGY & POWER VALUE CHAIN

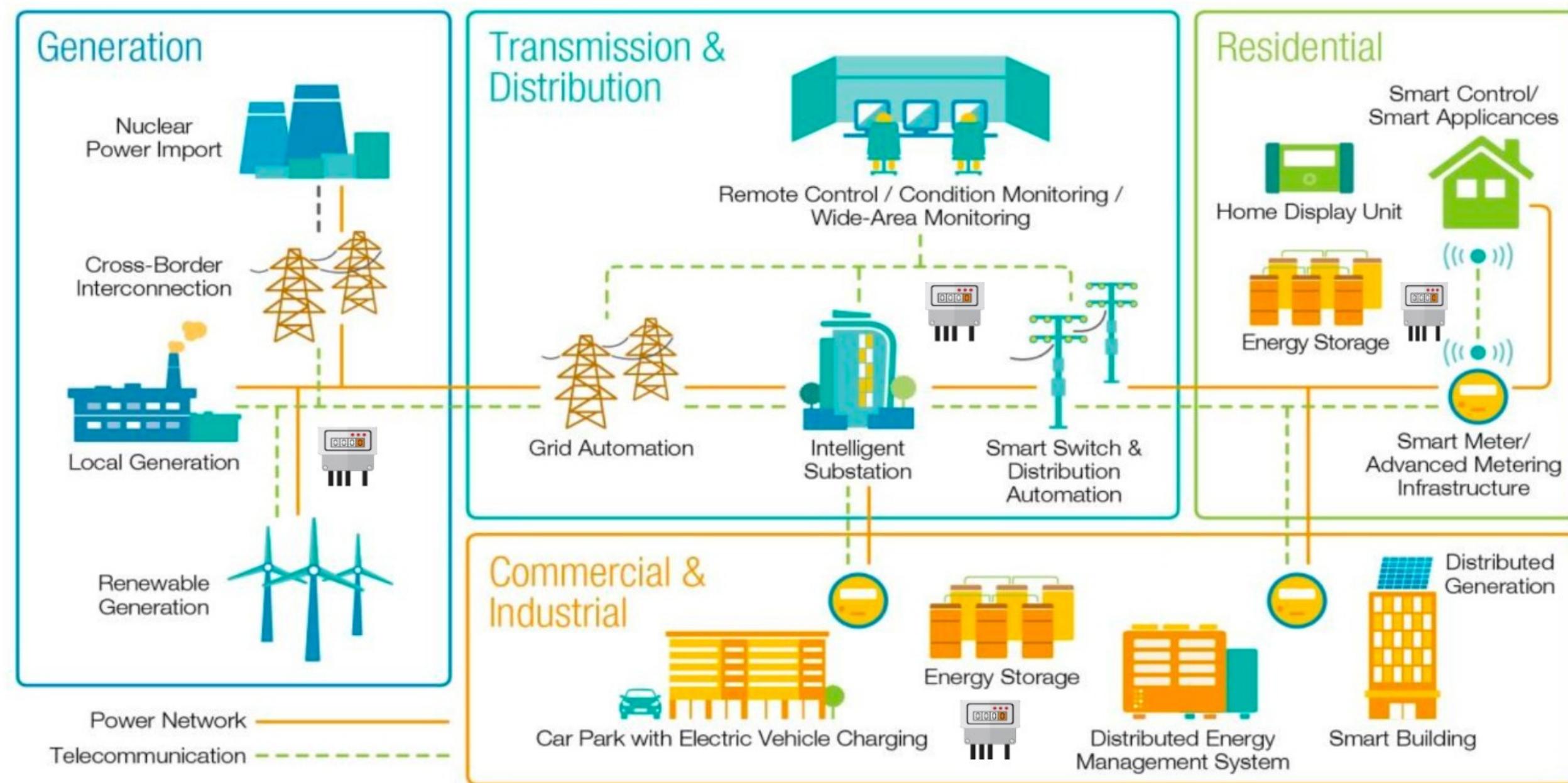
# DISCLAIMER

1) SEBI Registration Status	1) Registered
2) Whether the research analyst or research entity or his associate or his relative has any financial interest in the subject company and the nature of such financial interest.	2) No
3) Whether the research analyst or research entity or its associates or relatives have actual/beneficial ownership of one percent or more securities of the subject company (at the end of the month immediately preceding the date of publication of the research report or date of the public appearance)	3) No
4) Whether the research analyst or research entity or its associates or his relative has any other material conflict of interest at the time of publication of the research report or at the time of public appearance.	4) No
5) Whether it or its associates have managed or co-managed public offering of securities for the subject company in the past twelve months	5) No
6) Whether it or its associates have received any compensation for products or services other than investment banking or brokerage services from the subject company in the past twelve months.	6) No
7) Whether it or its associates have received any compensation for Investment banking or merchant banking or brokerage services from the subject company in the past twelve months.	7) No
8) Whether the subject company is or was a client during twelve months preceding the date of distribution of the research report and the types of services provided.	8) No
9) Whether the research analyst has served as an officer, director or employee of the subject company.	9) No
10) Whether the research analyst or research entity has been engaged in market making activity for the subject company.	10) No





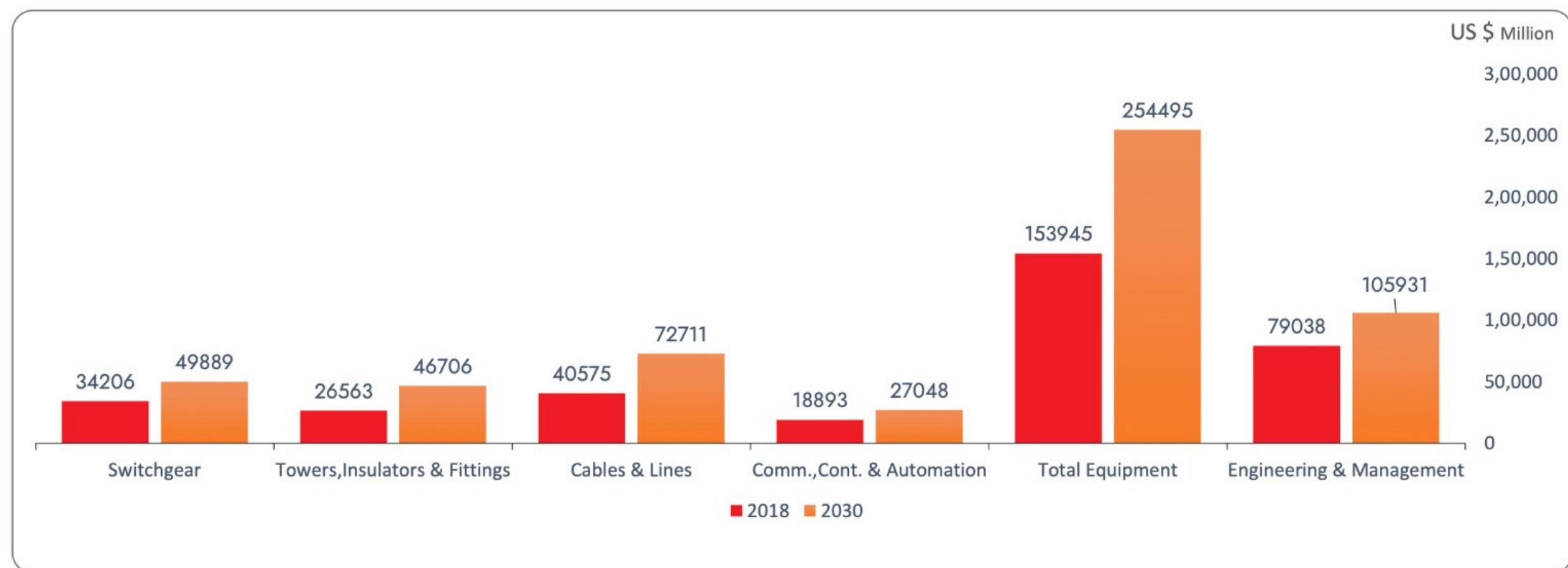
# Global Smart Meter: Market Trends



# Why T&D CapEx is Accelerating?

## T&D: Global (Cont.)

This is how the T&D investment are organized. The number of companies capable of supplying the equipment necessary is decreasing and there is sufficient business for all the companies which are offering quality and reliability.



- In the US, the investments in T&D systems by major utilities has risen over the last two decades to \$51 bn annually, but this figure needs to increase significantly more.
- More EVs mean higher electricity demand and T&D infrastructures must be prepared to handle the load.



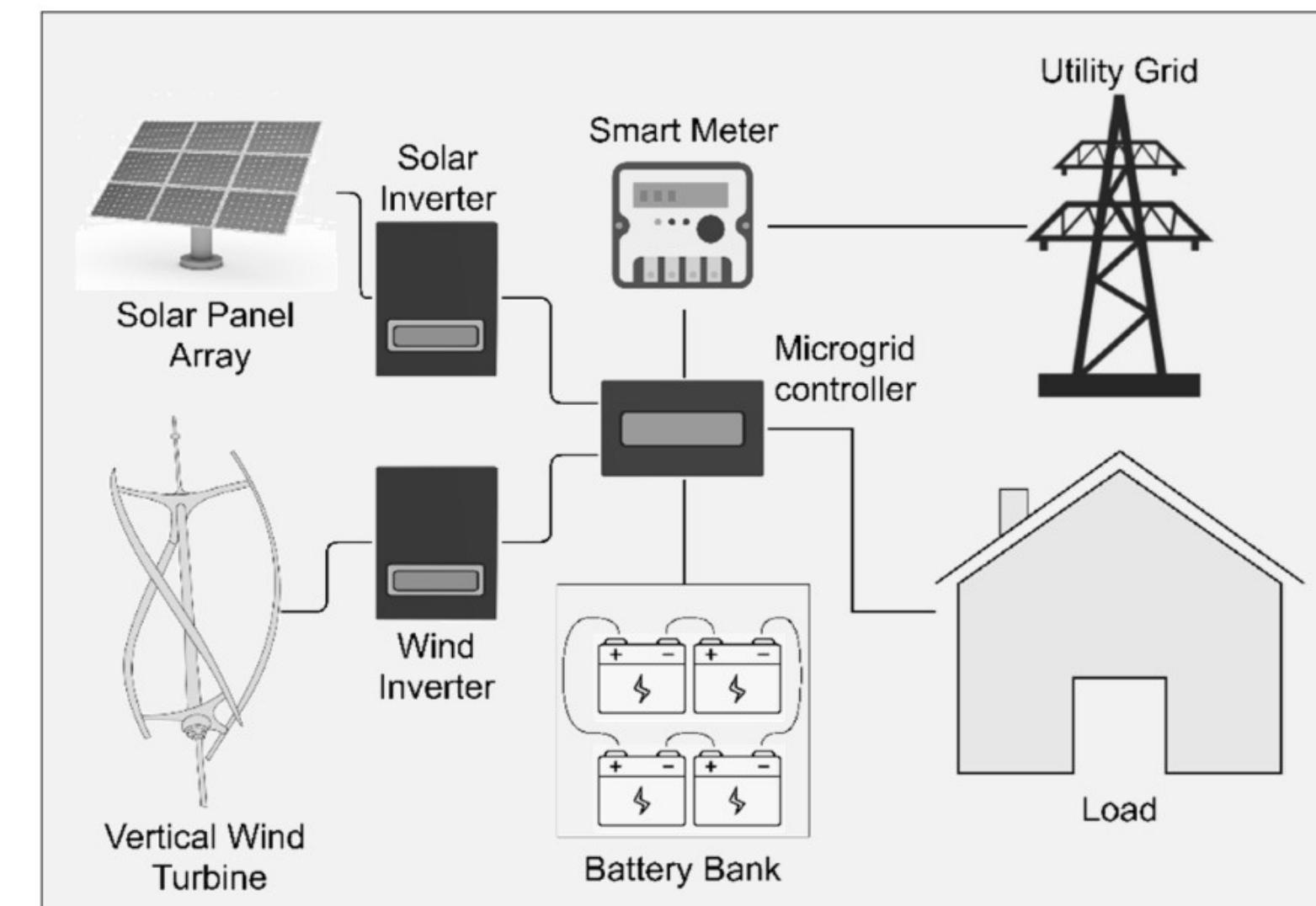
# Hybrid Projects are Coming up

## Wind-Solar Hybrid

3.30 MW Wind Turbine  
2.80 MWp Solar Energy

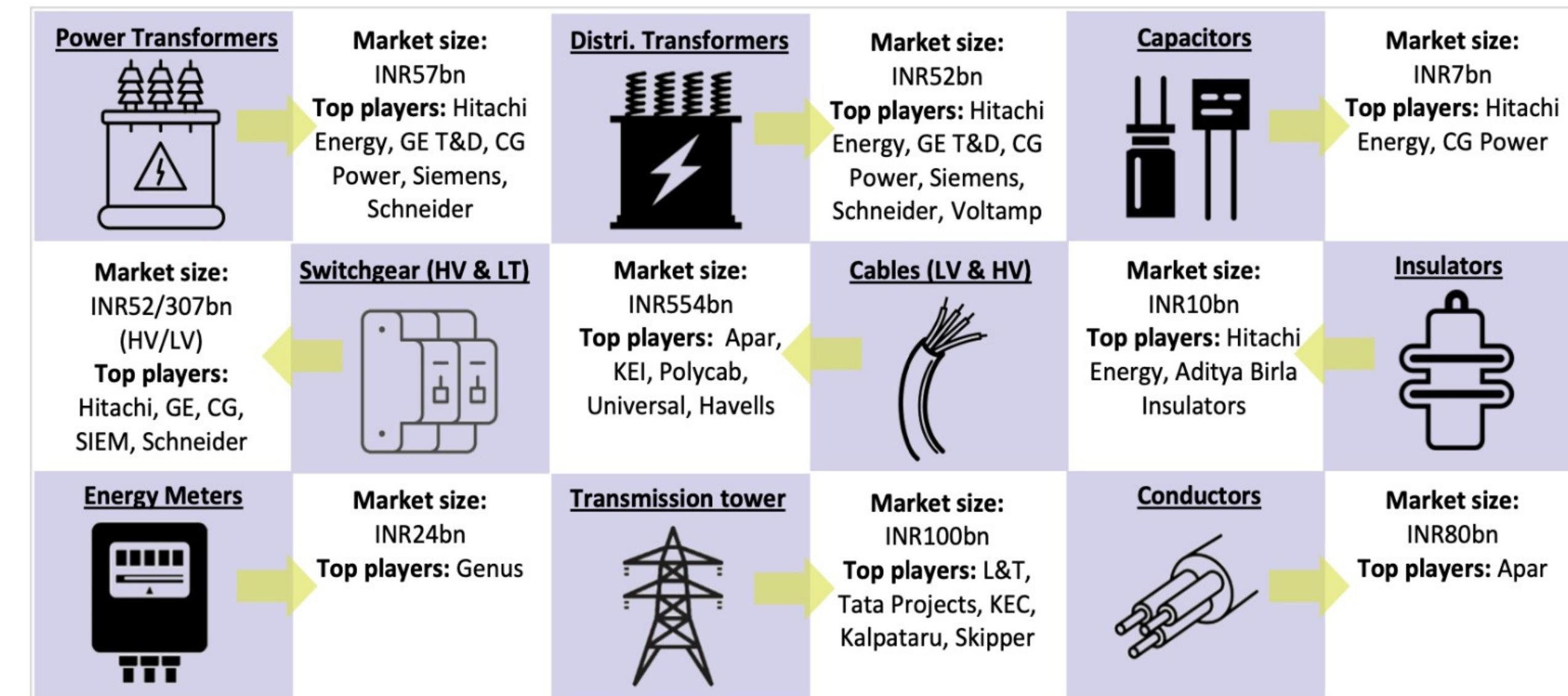
## Roof-top Solar

5.13 MW Roof-top Solar



# Industry Challenges with Renewables

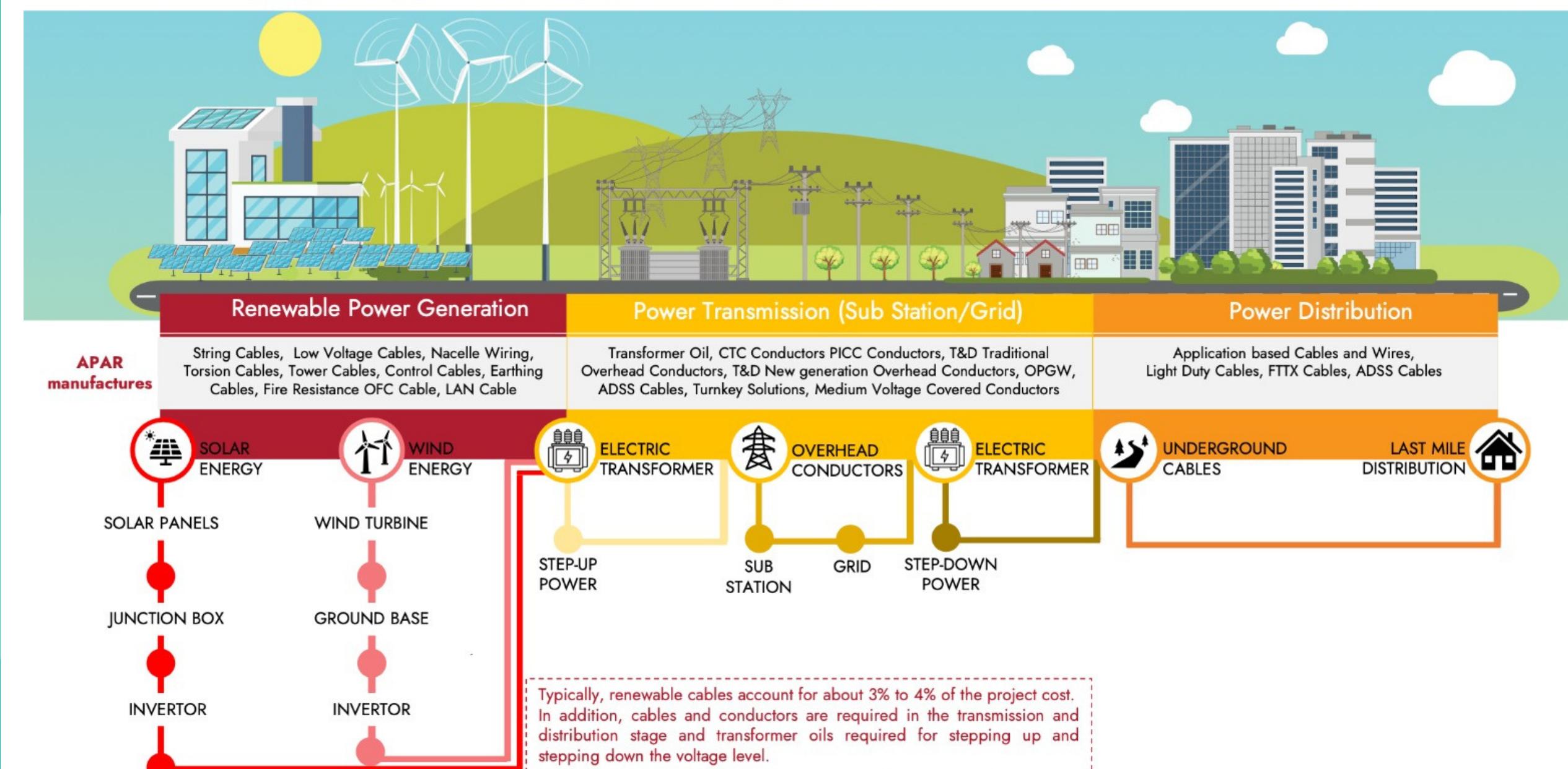
Exhibit 30: Value chain (FY22): Product-wise market size with top players



Source: IEEMA, Nuvama Research

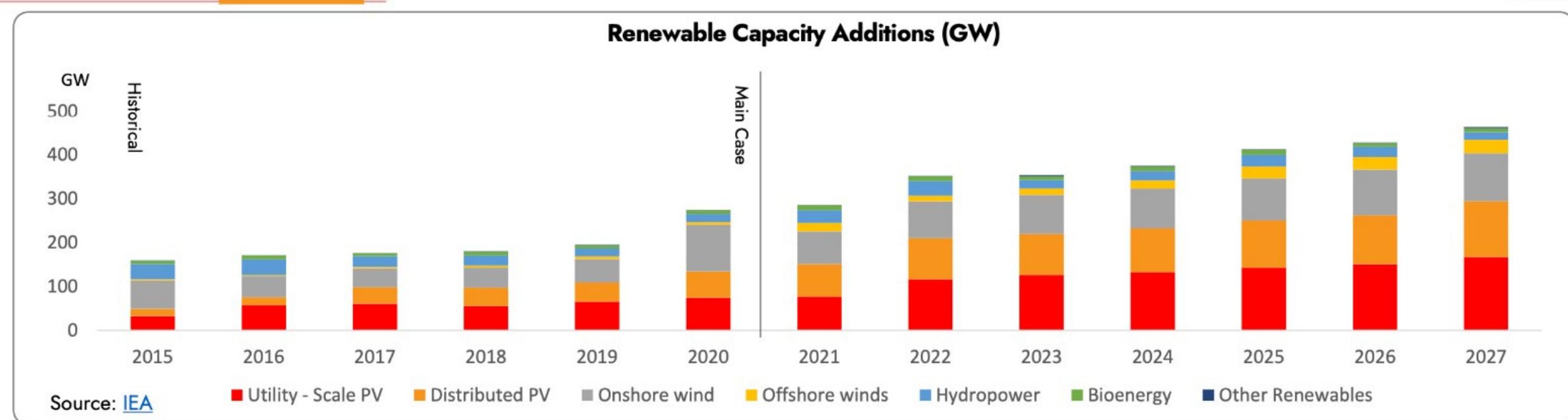
# Strong Opportunity Across All Business Verticals

## Renewables – strong opportunity for all business verticals

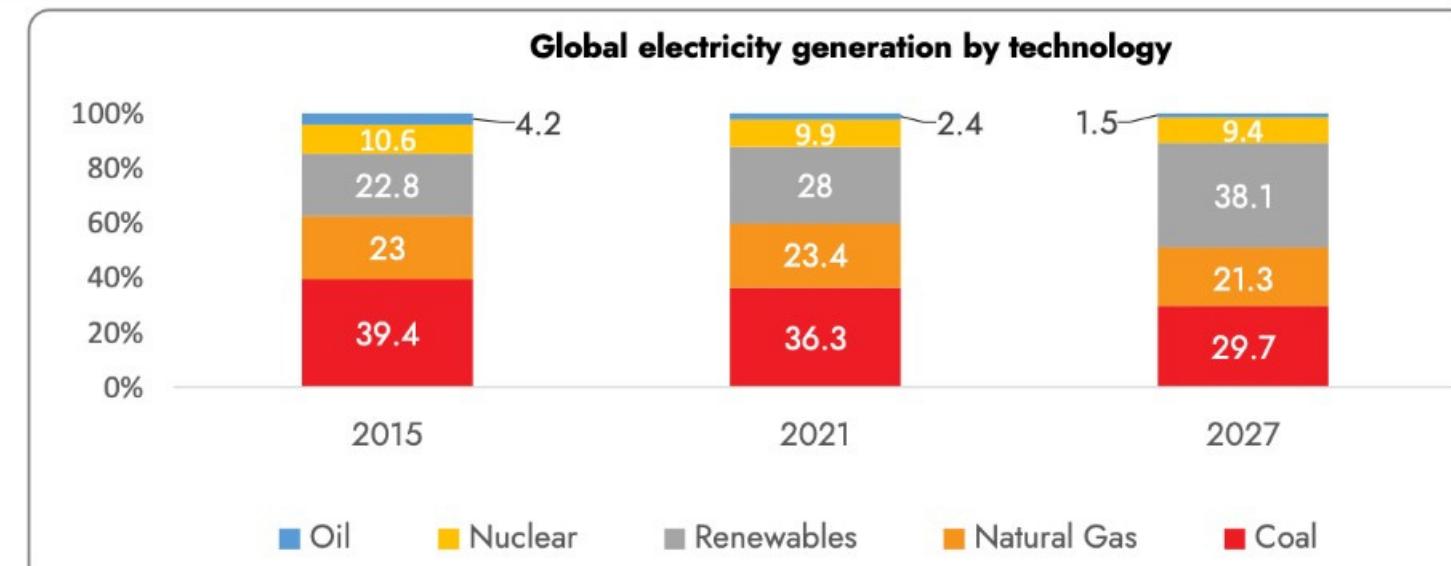


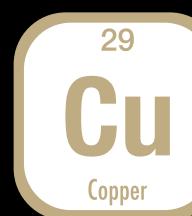
# Renewable Capacity shares to Increase Globally

**Globally, Renewable Energy share to increase from 28% to 38%**



- Energy crisis fuels global renewables growth, 2,400 GW expected 2022-2027. With expected 400 to 500 GW annually.
- Global renewables to rise: 28% (2021) to 38% (2027), curbing coal, gas, stabilizing emissions, lowering CO2 intensity.





# 4 REASONS WHY COPPER IS PREFERRED?

## DUCTILITY

- It can be rolled into sheets and pulled into wires without breaking.

Copper is low on reactivity scale. corrosion is minimal due to a natural protective coating.

## LOW REACTIVITY

The transfer of electromagnetic energy is strongest when there is little resistance.

## ELECTRICAL CONDUCTIVITY

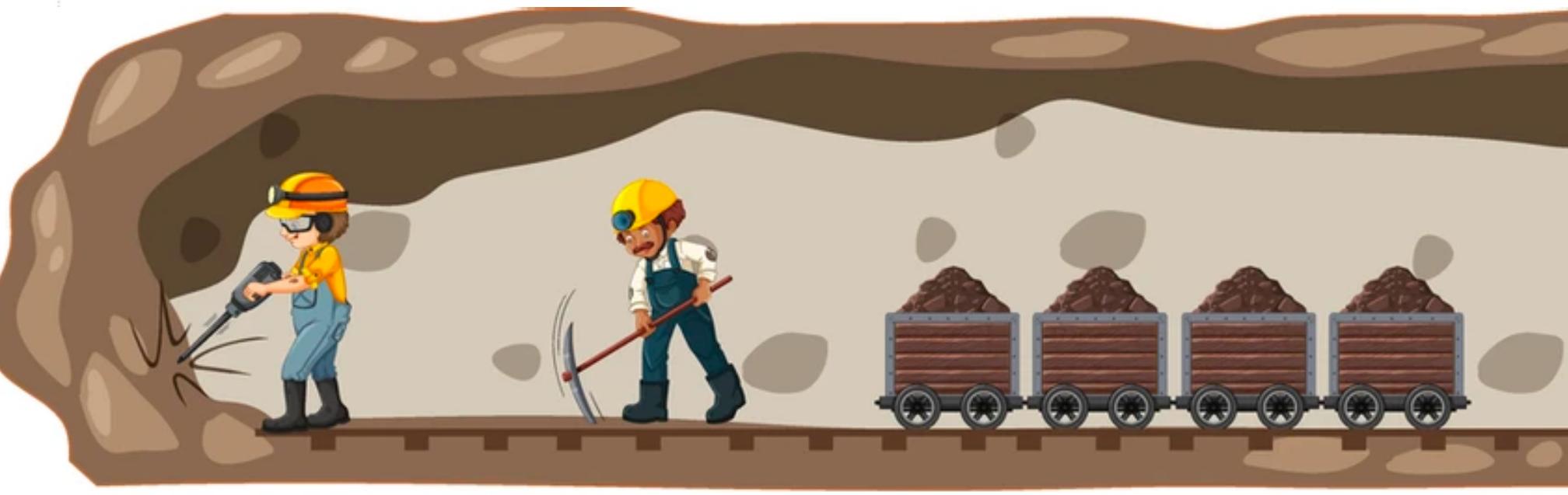
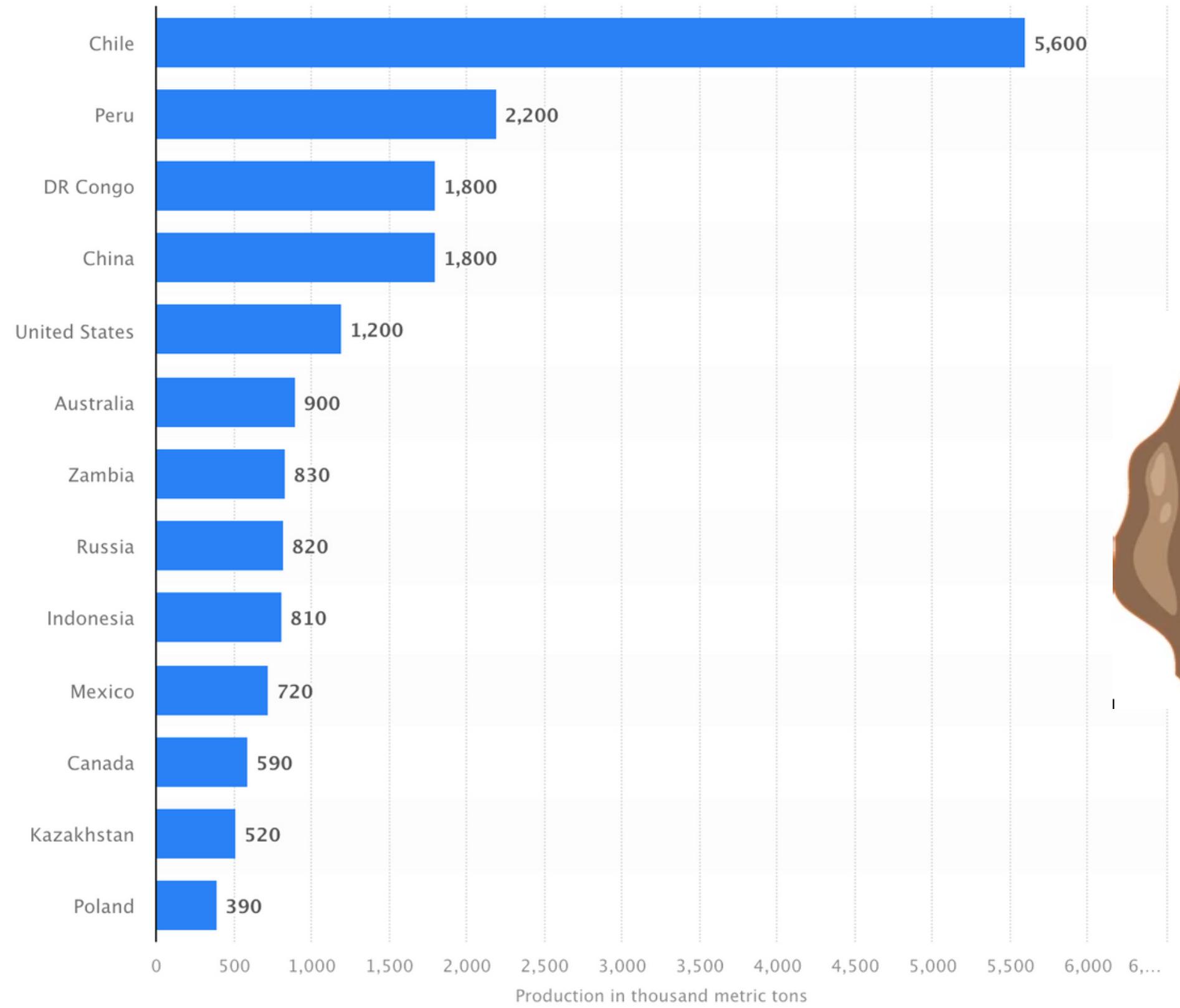
Copper facilitates transmission of heat energy

## THERMAL CONDUCTIVITY



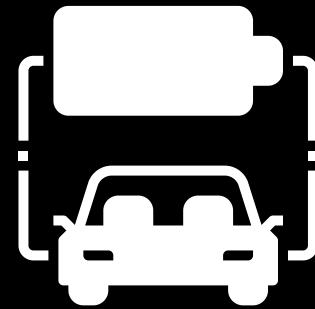
# Major Countries in Copper Mine Production Worldwide in 2021

(in 1,000 metric tons)

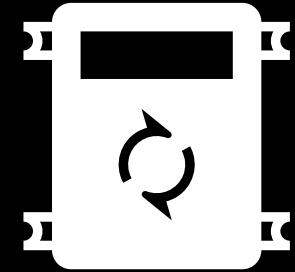


CREDITS: STATISTA

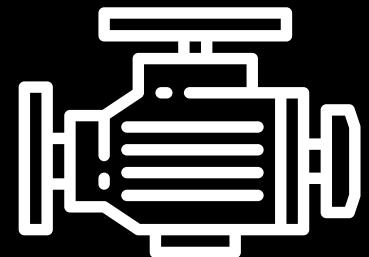
# END USAGE: ELECTRIC VEHICLES



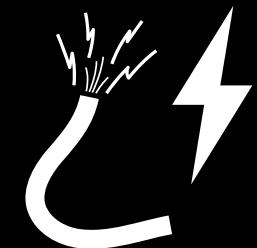
EV  
BATTERIES



INVERTERS



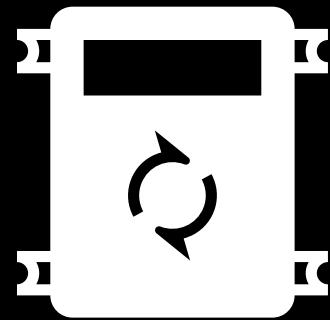
MOTOR  
COILS



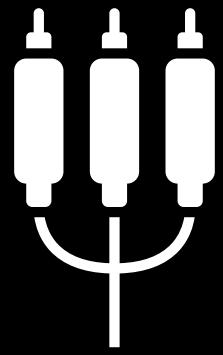
WIRING



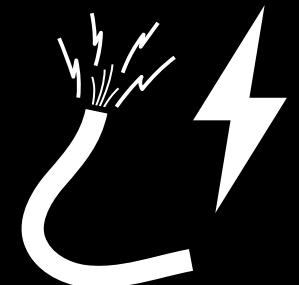
# END USAGE: SOLAR TECHNOLOGY



INVERTERS



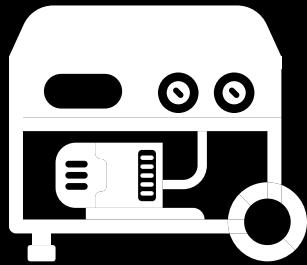
INTERCONNECTORS



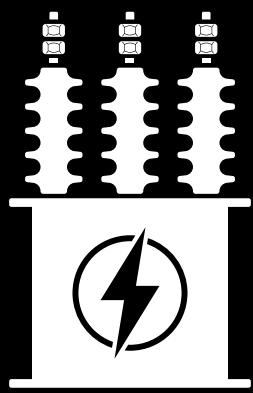
WIRING



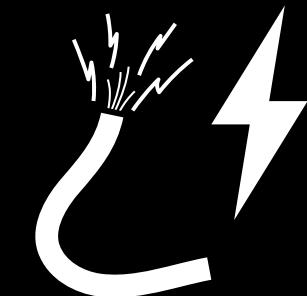
# END USAGE: WIND FARMS



GENERATORS



TRANSFORMERS



WIRING

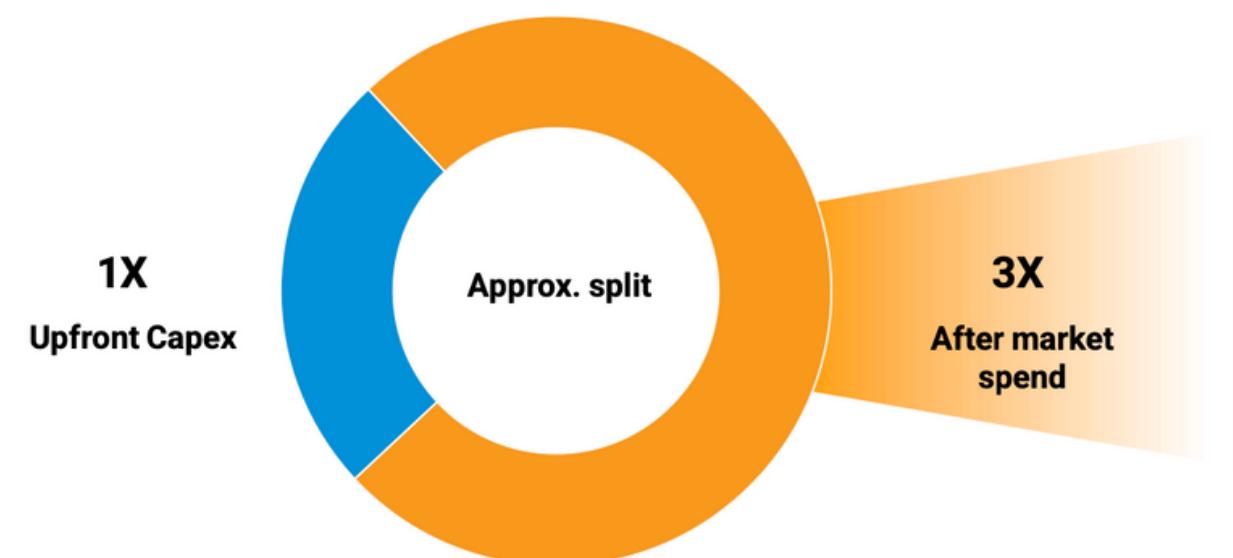


# A Play on Copper

2

## Insulated from Capex Cyclicity of Mining Players

Upfront capex & After-market spend over the lifecycle of a mill



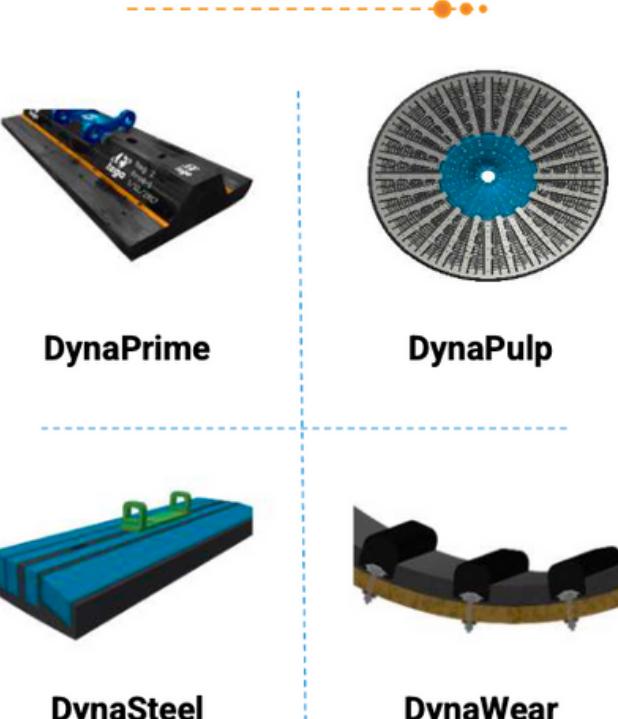
# Product Portfolio

1

## Diverse & Innovative Products

### FLAGSHIP PRODUCTS

#### MILL LINERS



DynaPrime

DynaPulp

DynaSteel

DynaWear

#### HYDROCYCLONES



Tega Cyclone (PExEL)

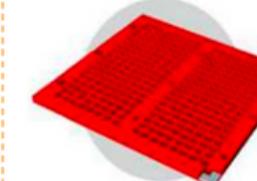
#### SCREENS & TROMMELS



Rapido

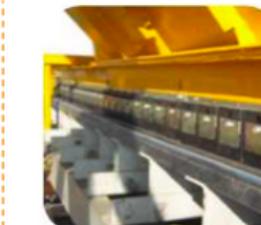


Trommel



Screening Solutions

#### CONVEYOR PRODUCTS



Spillex

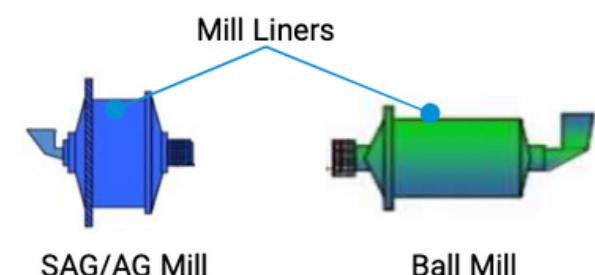


Centrax



Ceramic pulley lagging

Used in grinding mills for beneficiation of minerals

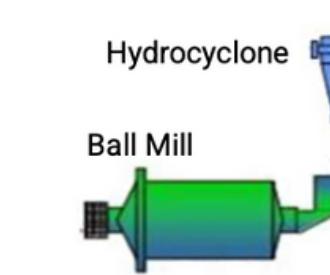


Mill Liners

SAG/AG Mill

Ball Mill

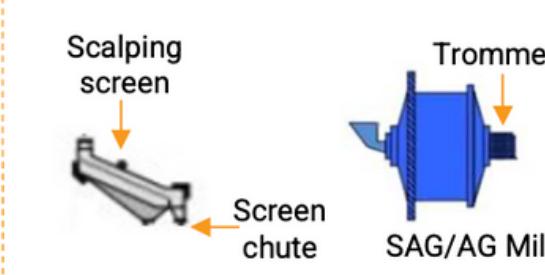
Used for extracting or separating slurry particles



Hydrocyclone

Ball Mill

Used for separation of particles according to sizes



Scalping screen

Screen chute

Trommel

SAG/AG Mill

Used with conveyor belts



Conveyor Belt

# Hybrid Projects are Coming up

## SECTOR OPPORTUNITY



- Solar Installed capacity is expected to grow by 225 GW & Wind installed capacity is expected to grow by 55 GW during 2024 to 2030 in India
- India aims 45% less carbon, 50% renewables by 2030, net-zero by 2070



- Global renewable energy addition growth is expected to grow by minimum 150 GW from 2024 to 2027
- Globally, renewable energy share to increase from 28% in 2021 to 38% in 2027 curbing coal, gas, stabilizing emissions, lowering CO2 intensity



- Extensive transmission and cable infrastructure to transmit power from remote generation sites to consumption centres
- Concentration of expansion happening simultaneously in G20 countries



# Total Addressable Market in T&D India

**Global investment in (T&D) infrastructure is expected to reach \$2.2Trillon next 10Years.**

## **Key Drivers are:**

**Growing Demand of Electricity:** 50% of demand will increase in next 10years

- Electrification of Transport System
- Economic growth
- Population Growth

**Integration of Renewable Energy:**

- Growing share of Renewables adding to Grid.
- Cost competitive to fossil fuel, Drive due to climate change.

**Smart Grid:**

- To improve efficiency & reliability of T&D Network.
- To minimize the loses and improve of quality of power of T&D Network.

**Decarbonization of Power Sector:**

- Power sector is under pressure to Decarbonize.
- Deployment of low carbon technologies like Solar, Wind power generation.

# Total Addressable Market in T&D in the World

**Indian Govt investment in (T&D) infrastructure is expected to reach \$30 Billion next 10 Years.**

**Key Areas are:**

## **Domestic Market**

### **Construction of New Transmission & Distribution lines:**

- 28000 ckm of Transmission lines by 2028, 1,80,000 km of distribution lines
- Which means 1.25 million MT Tx conductor requirements in next 5 years of Transmission lines

### **Augmentation of Existing Transmission lines:**

- 18000 ckm of Transmission lines are to be augmented
- Capacity and power quality of Existing Transmission line will be increased

## **Export Market**

- Global Overhead Conductors market is around 4.5 million tons for next 5 years.
- APAR contributes 50% of total export from India.
- Top exports markets are USA, Australia.



# CABLES & WIRES: USED EVERYWHERE



**Intrinsic Compounding** ✅  
@soicfinance

...

Cable demand is typically 3-4x higher for a 1 GW solar power plant than a conventional 1GW thermal power plant. And for the same energy requirement, the solar capacity required is at least 3-4x that of conventional thermal plant due to lower utilisation factors.

Cables&wires ⚡



# CABLES & WIRES: USED EVERYWHERE

## DIVERSIFIED USE INDUSTRIES



Power



Oil & Gas



Railways



Automobiles



Cement



Steel



Real Estate



Fertilizers



Roads &  
Highways



Textile



Telecommunication



Data  
Centers

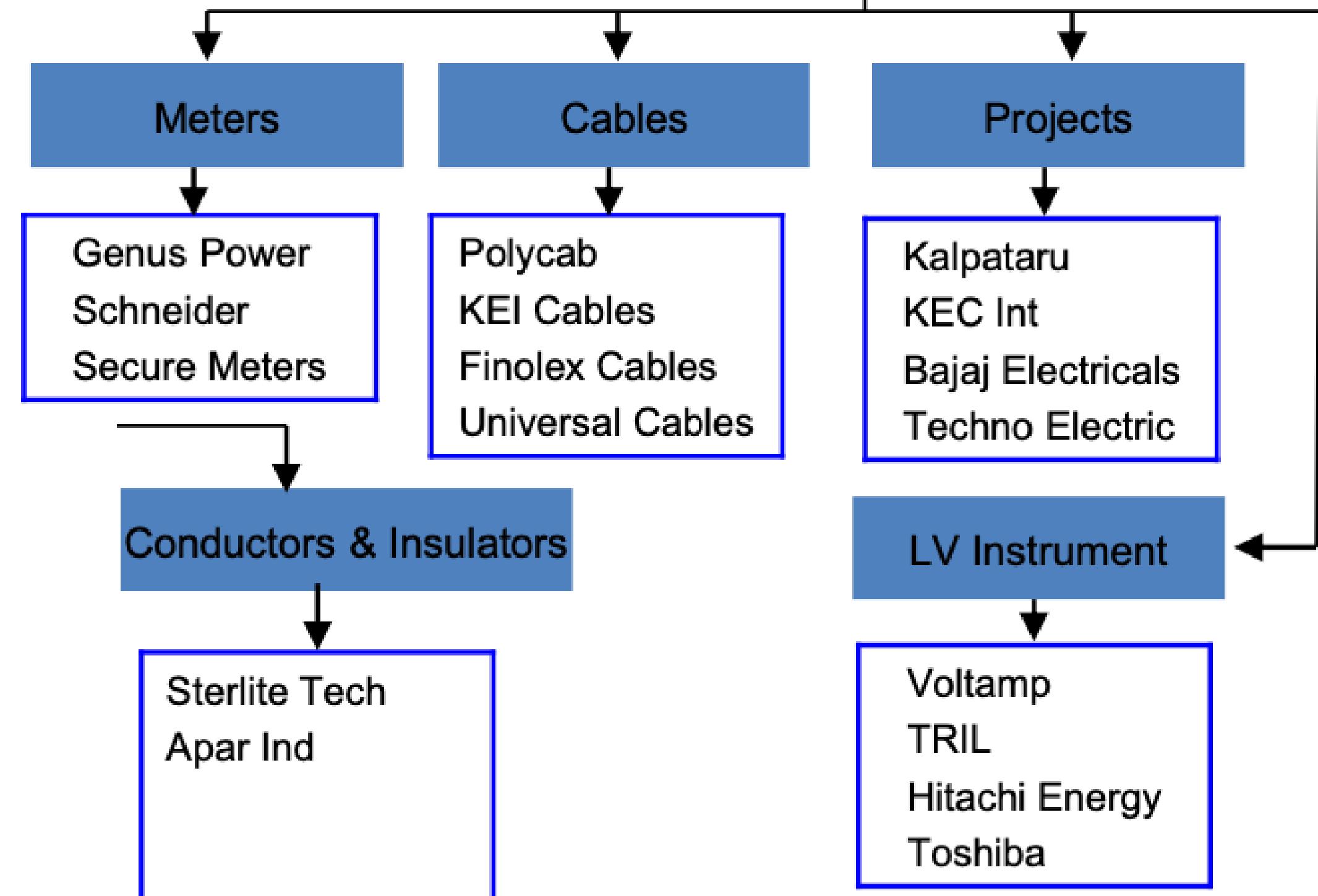


Renewable  
Energy



# CABLES & WIRES: USED EVERYWHERE

## Distribution





# CABLES & WIRES: USED EVERYWHERE

**V. Balasubramaniam:**

Okay. If I could just ask one more, pardon me for it. Some of your competitors have started talking about China plus one in wires and cables that a country like U.S wants to diversify our supply chains in terms of buying wires and cables. Are you facing these kinds of, are you getting queries from international clients that can you please export to us because we don't want to buy from, we want to buy less from China. So, this is something some of your competitors are actually highlighting.

**Anil Gupta:**

Yes, you are correct. We are also getting lots of inquiries and in the coming quarters and months and years, the export will go substantially. We have also started exports to U.S.A since February this year. And quarter-after-quarter, you will see our export has jumped to 17% of our sales, which was in earlier years it was only 10%. So, it will definitely be growing subject to, I mean, whenever we are able to feed them with our capacities.



# CABLES & WIRES: USED EVERYWHERE

the global standards which is the EN standard which is the number one standard that operates globally. You have IEC, you have UL, you have CEE.

So we have products which meet all of these standards. So they allow us to participate not only in the Indian market but wherever this goes in the world. And in fact if you see the markets for us in terms of revenue, after India, the next largest is the United States and the third largest is Australia. If you look at the global renewable energy addition growth that is expected to happen, we are looking at 150 gigawatts from 2024 to 2027 and globally renewable energy share to increase from 28% to 38%. Basically substituting hydrocarbons in place and here wind in many countries around the world where you don't have the kind of sunshine that's there in Asia and in India etc. is going to be a very major player.

You see some of the largest wind turbine manufacturers are all located overseas. We deal with all of them. We have Vestas, you have Siemens Gamesa, you have Senvion, Envision which is a big Chinese player and they have set up manufacturing in India, Nordex and GE. GE are the world's largest wind turbine producer at the moment. They are also the largest exporter for cables and conductors from India and hope to continue this. So 50% of our revenues basically across all the three verticals comes from export.



# **CABLES & WIRES: USED EVERYWHERE**

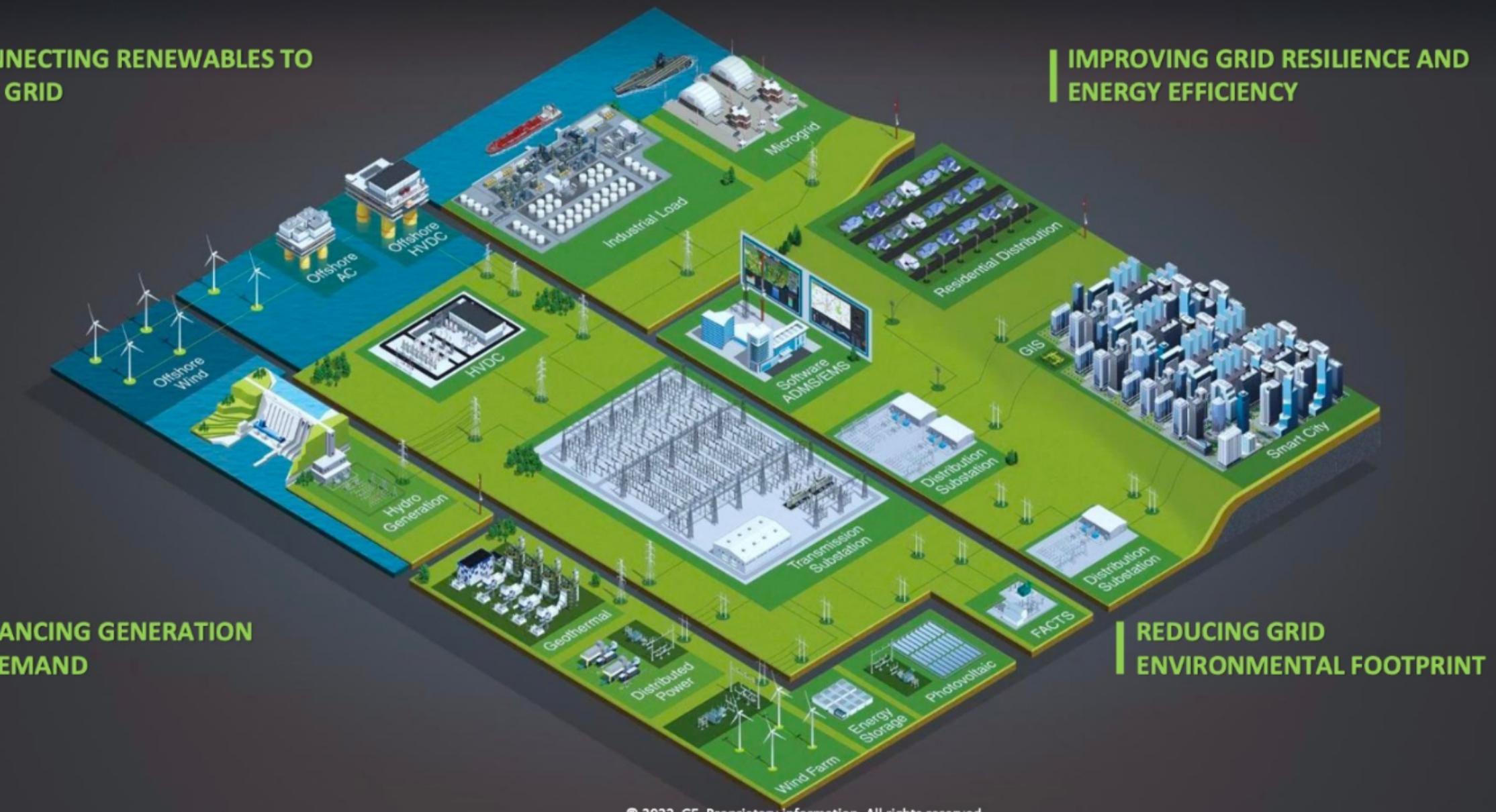
If you see what we have to offer with the leader in domestic solar cable segment, we are the most dominant player in the wind segment with over a 70% share. You will see a slide later on which kind of explains where these cables are used and our products are used in the whole network. The range that we have, it meets all



# Industry Challenges with Renewables

## Understanding Our Industry Challenges

CONNECTING RENEWABLES TO THE GRID



BALANCING GENERATION & DEMAND

IMPROVING GRID RESILIENCE AND ENERGY EFFICIENCY

REDUCING GRID ENVIRONMENTAL FOOTPRINT



© 2022, GE. Proprietary information. All rights reserved.

# Industry Challenges with Renewables

## BULK POWER TRANSFER TO INTERCONNECT REGIONS

HVDC - HIGH VOLTAGE DC TRANSMISSION SYSTEMS

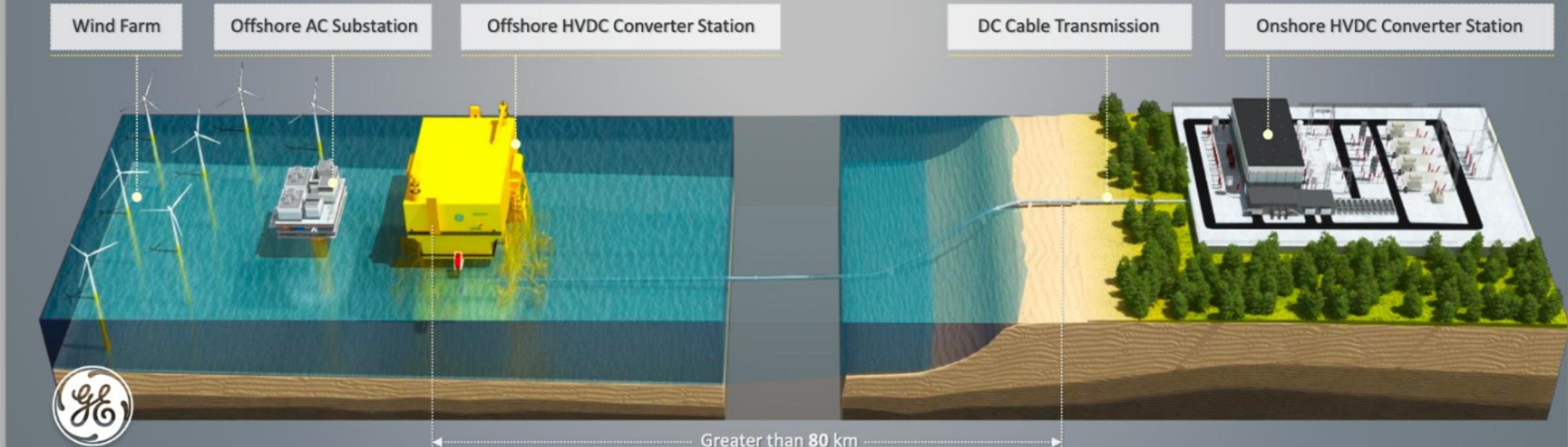
**3x CAPACITY  
OVER LONGER DISTANCES  
LOWER COST**

WORLD'S LONGEST DC LINK  
(2,400 KMS)

WORLD'S 1<sup>st</sup> 3-TERMINAL  
HVDC SYSTEM

WORLD'S HIGHEST RATED  
SUBMARINE CABLE LINK (2000 MWatts)

WORLD'S 1<sup>ST</sup> OVERHEAD LINE HVDC  
USING DMR (800 kV, 3000 MWatts)



# Total Addressable Market in T&D in the World

## Need to Make



### What is a smart meter?

By Venkatesh Ganesh

bl. BusinessLine / Nov 11, 2019

# Global Smart Meter: Market Trends

**Shivalik Bimetal:  
Shunts Supplier**

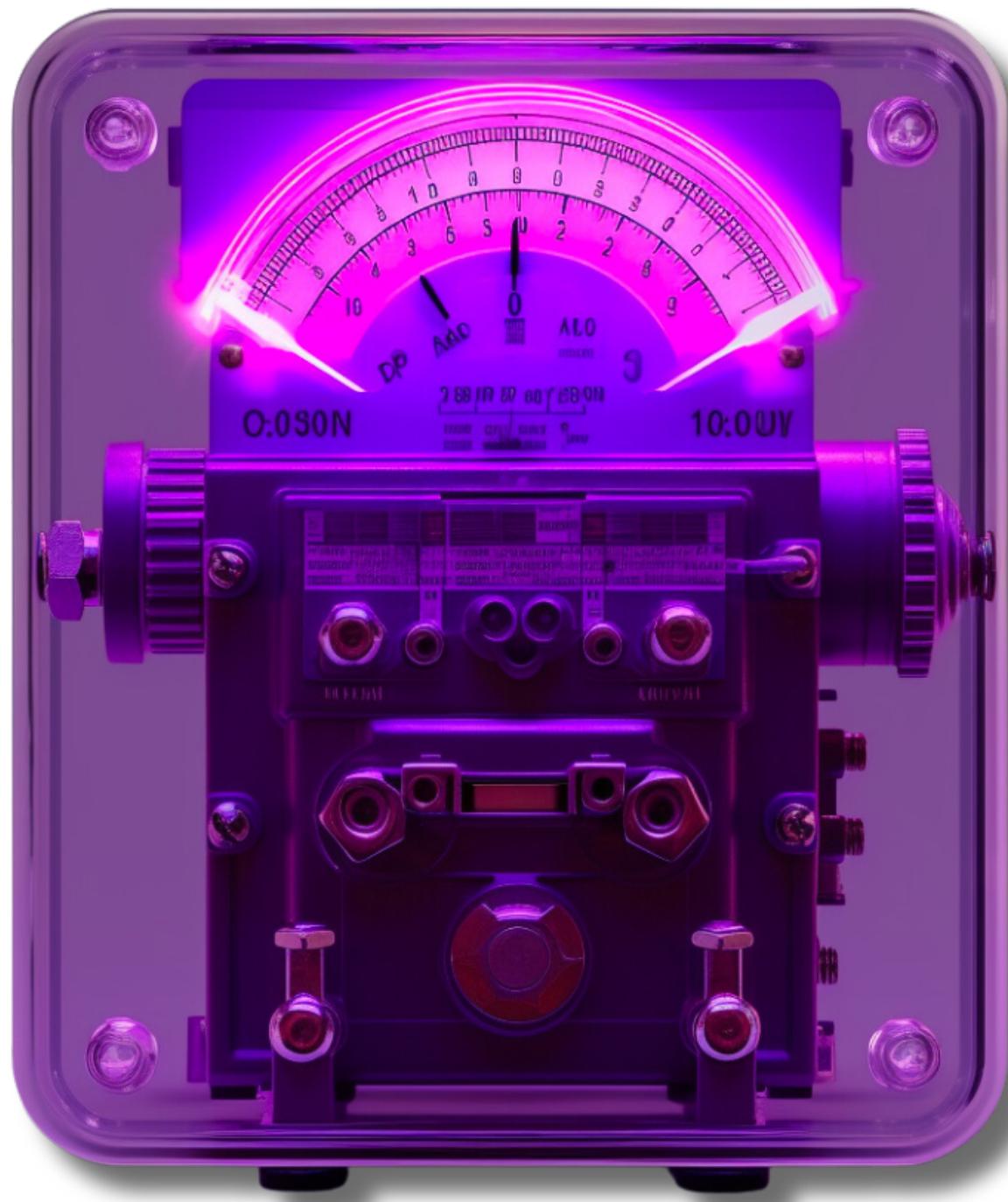
**Permanent Magnets:  
Current sensing modules &  
modules value chain**

**Permanent Magnets:  
Current sensing modules &  
modules value chain**

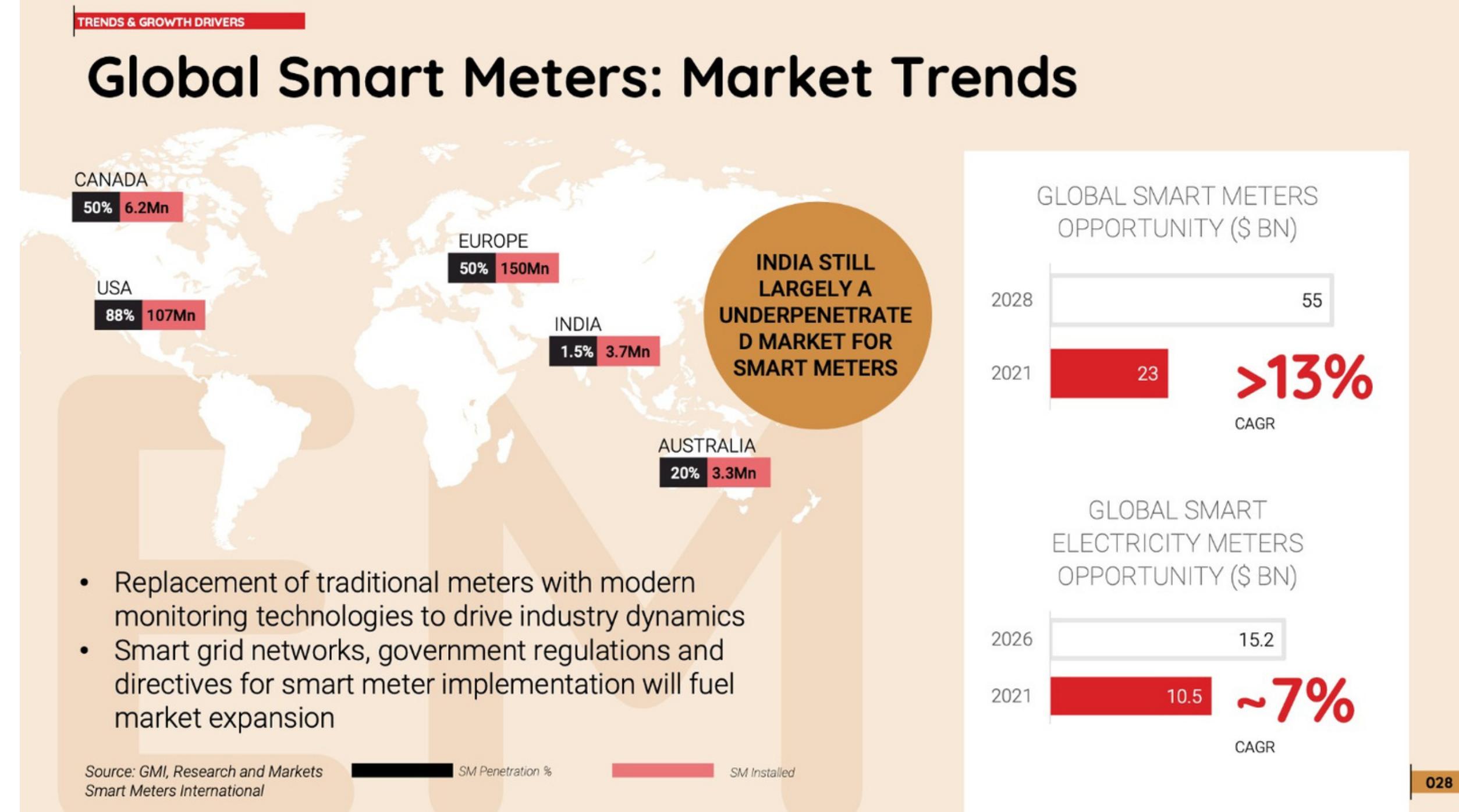
**Shivalik Bimetal:  
Shunts Supplier**

**Permanent Magnets:  
Current sensing modules &  
modules value chain**

**Permanent Magnets:  
Current sensing modules &  
modules value chain**



# Global Smart Meter: Market Trends





## **COMPRESSORS FOR CITY GAS DISTRIBUTION**

Numbers don't tell the whole story.  
But they do tell part of the story.

**70%**

INDIA MARKET SHARE FOR  
AMMONIA REFRIGERATION

**1st**

INDIAN COMPANY APPROVED  
FOR HYDROCARBON  
REFRIGERATION SYSTEMS

**1st**

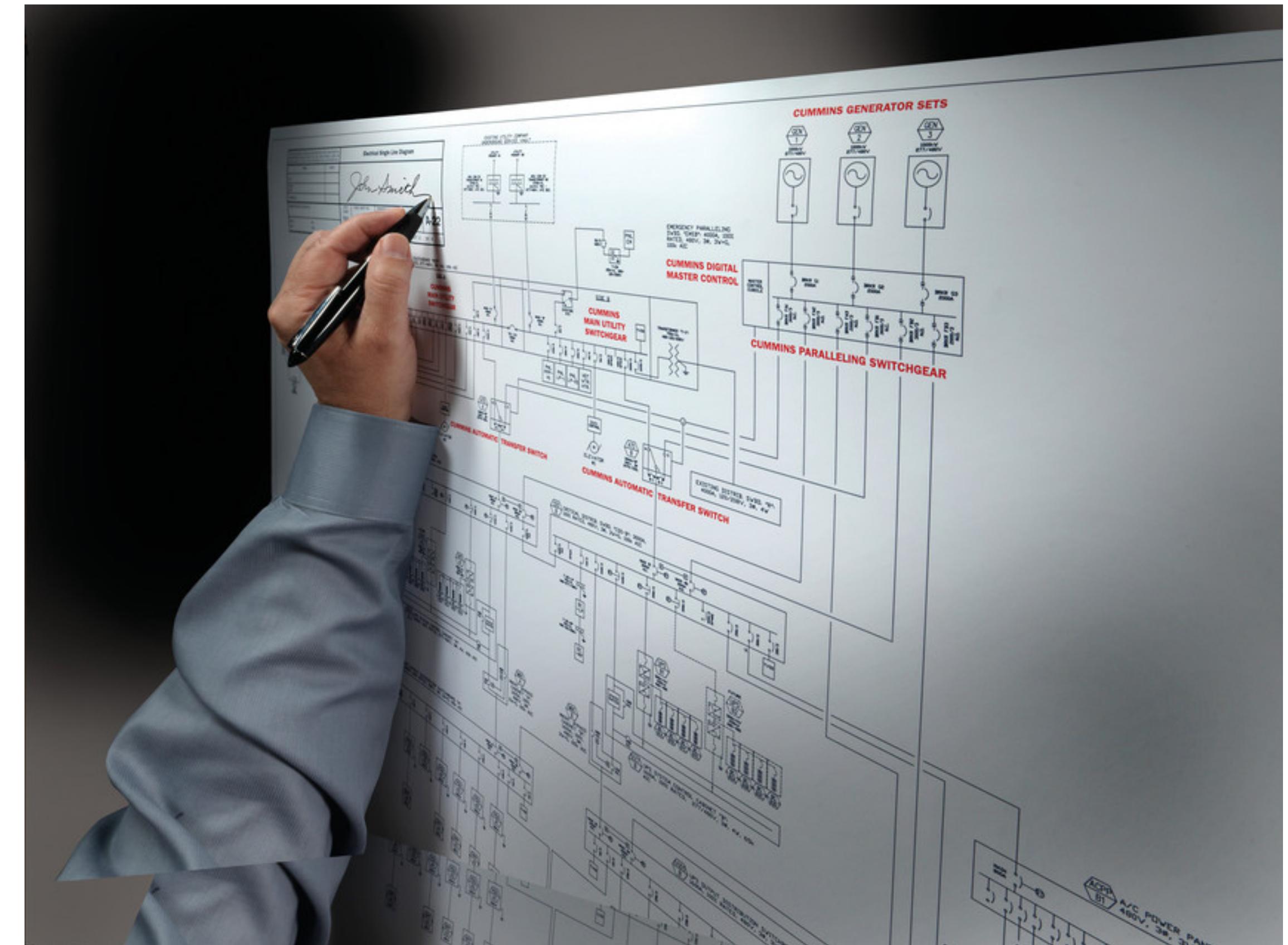
SUPPLIER OF TRACTION  
GEARS TO INDIAN RAILWAYS

**50%**

CNG STATIONS IN INDIA ARE  
POWERED BY KIRLOSKAR



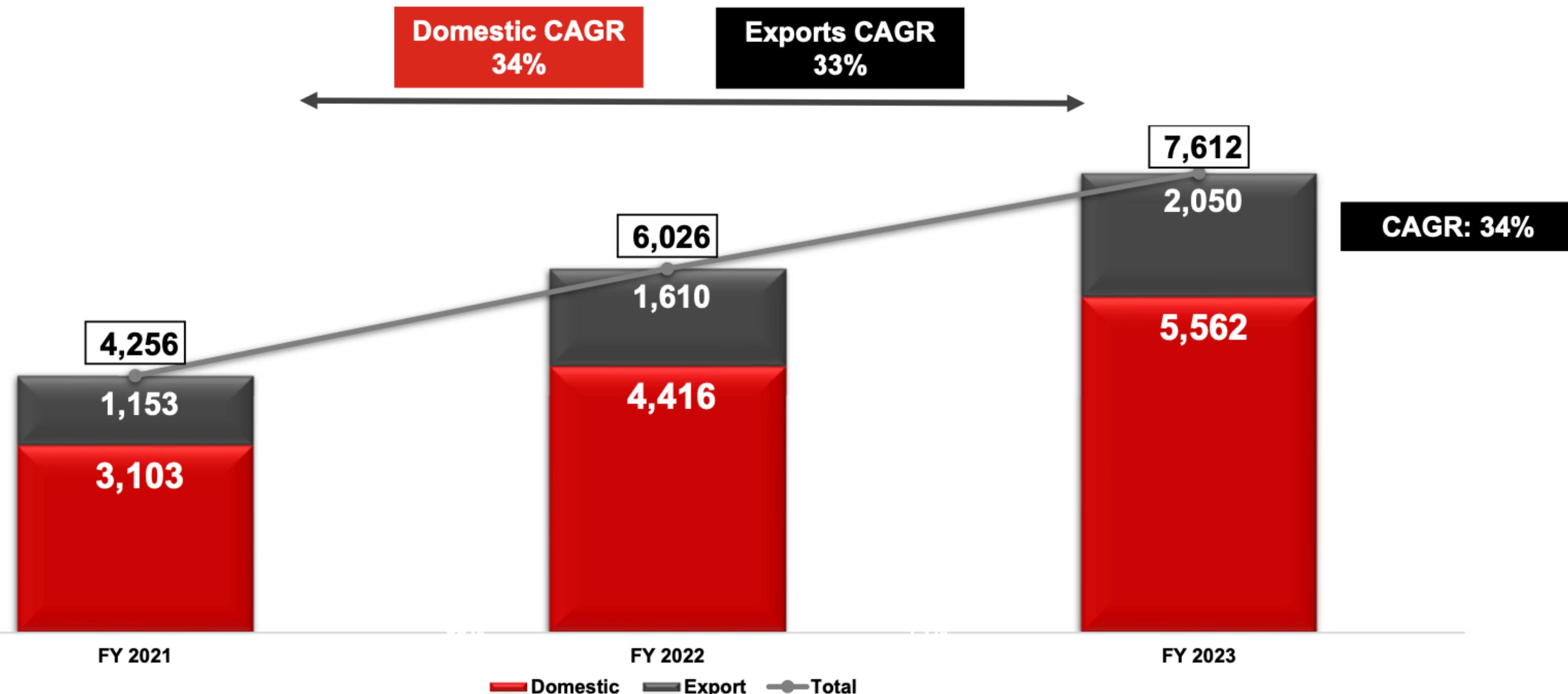
# PROXIES: GENSETS



CUMMINS INDIA LIMITED

# DOMESTIC VS EXPORTS TREND

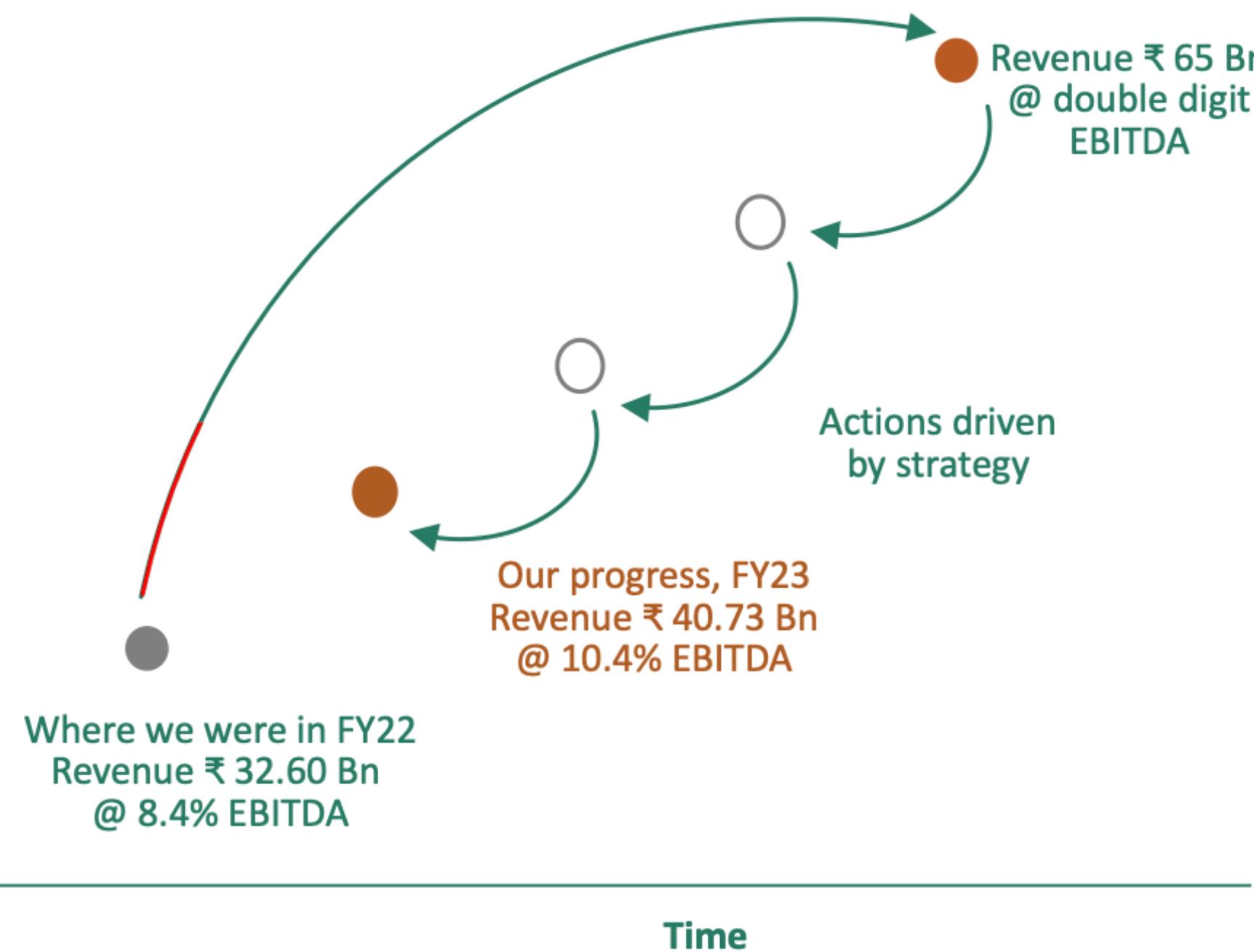
Figures are in ₹ Crores



# OUR 2X–3Y STRATEGY

Looking to drive exponential growth over the next 3 years

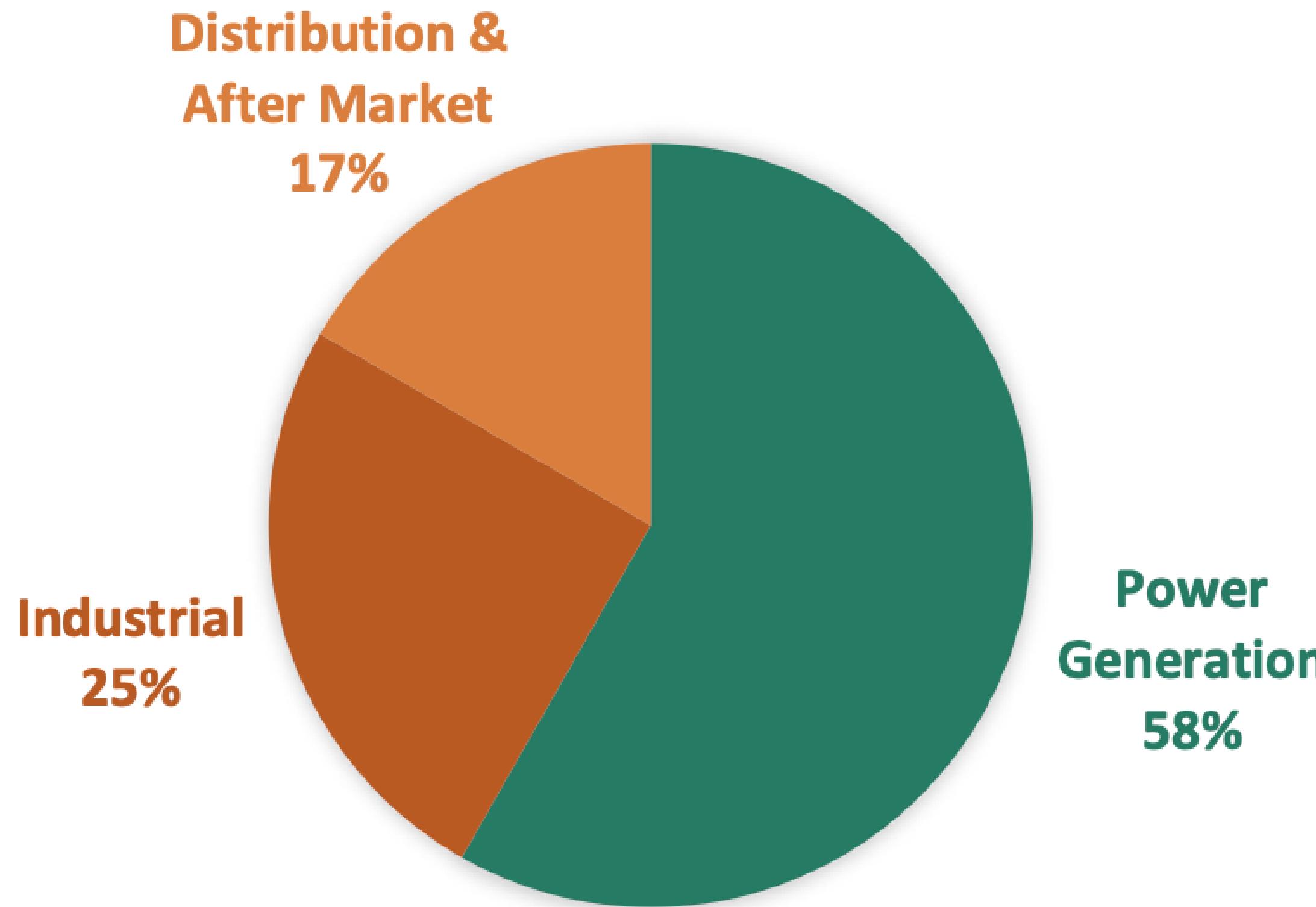
## 2X-3Y Strategy: Grow 2 times in 3 years

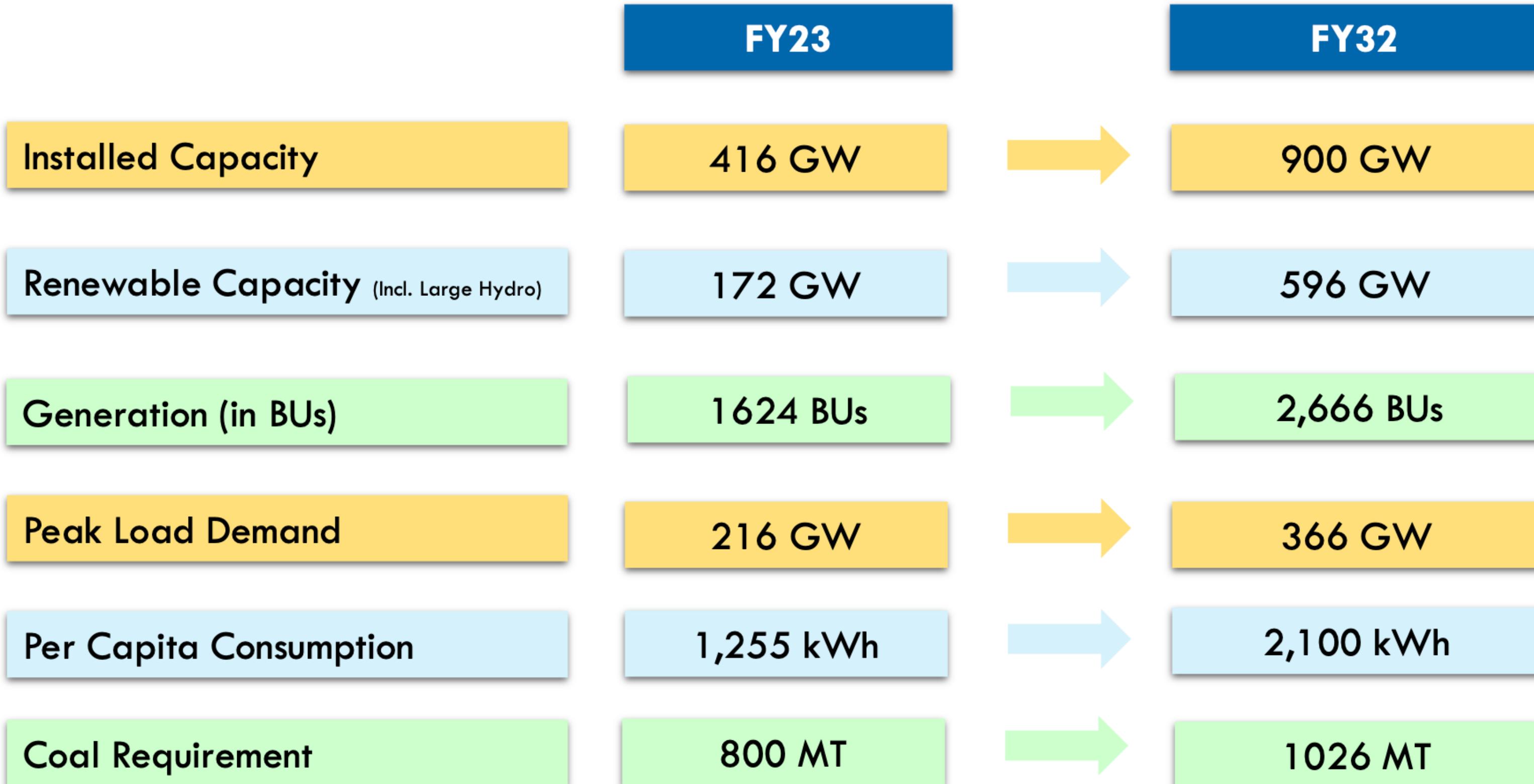


## 2X-3Y Strategy Pillars

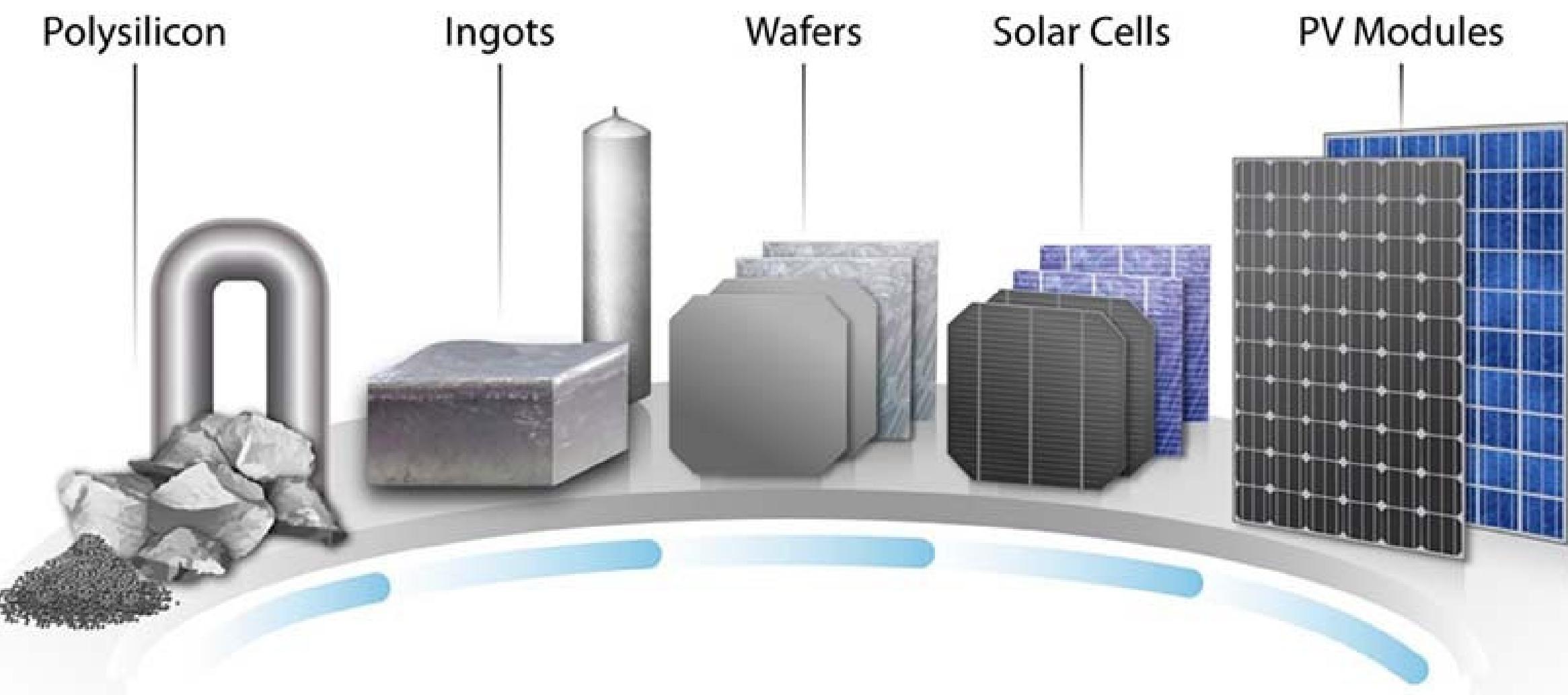


# Segment Revenue Composition For Current Quarter





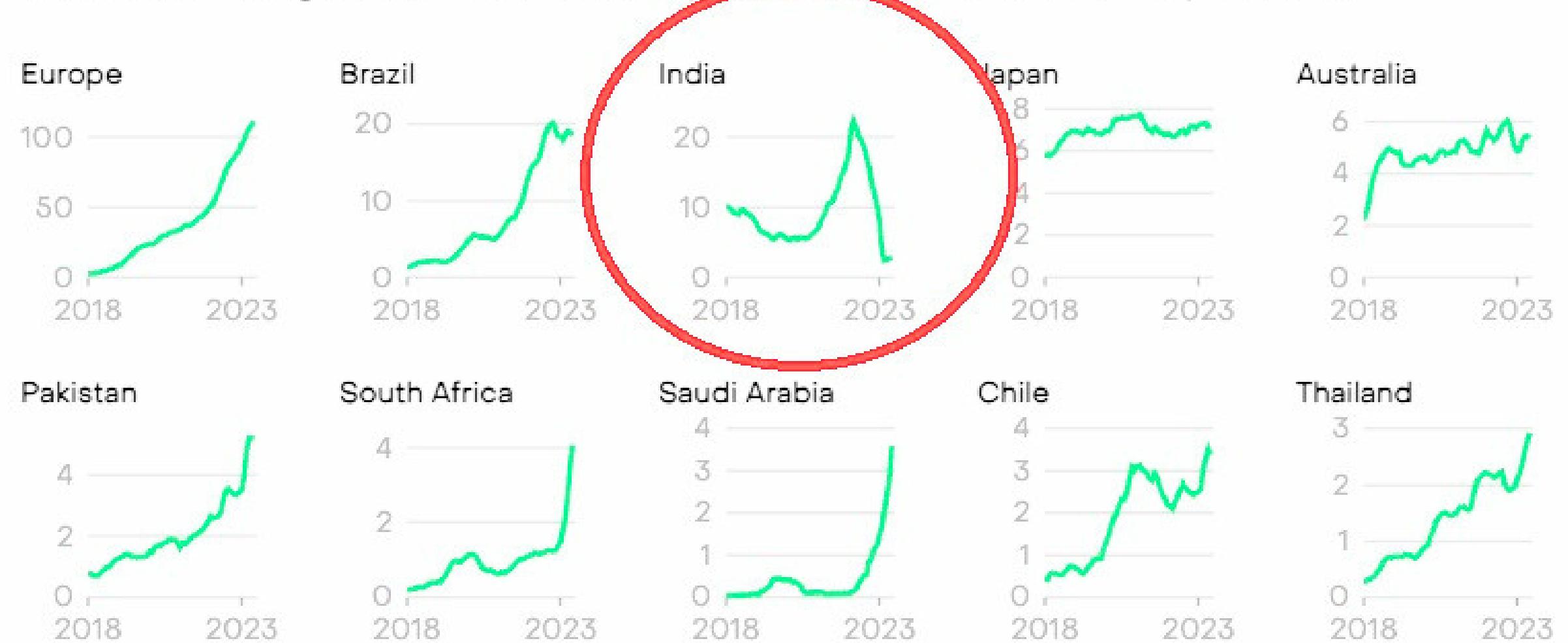
# Solar Panels Value Chain



# Solar panel Imports in India are falling Due to Import Duties

Solar panel imports rising across most of China's top ten markets

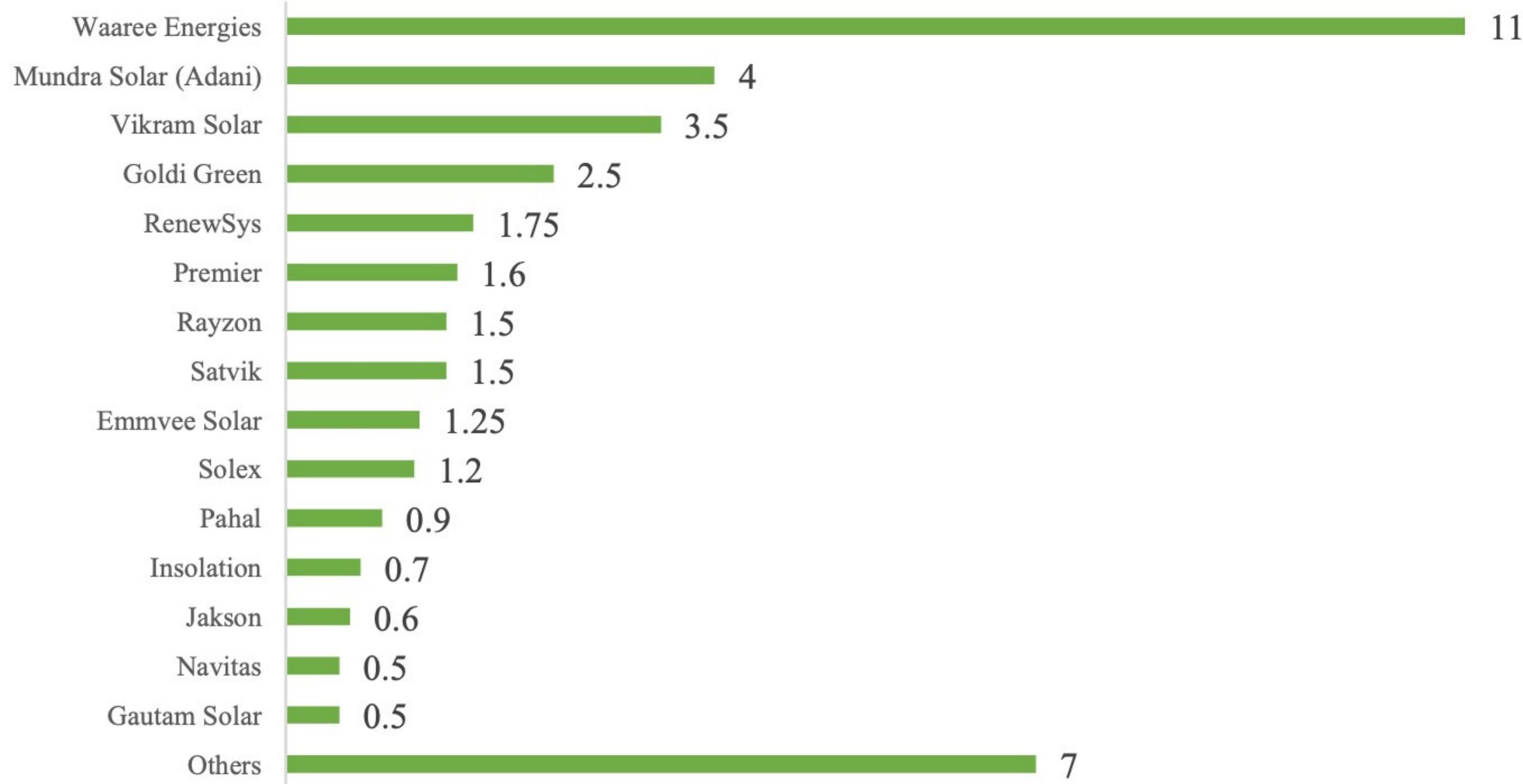
12 month rolling sum of modules exported from China (GW equivalent)



Source: Ember's China Solar Export Data

# Solar PV Modules Manufacturers

## Existing Module Manufacturing Capacity in India (in GW)





# Waaree Energies: Export Orders have Gone to \$5Billion+

## **Significant order pipeline led by export provides strong revenue visibility**

The company's revenue grew ~47% to Rs 2,905 crore in fiscal 2022, ahead of expectations, owing to strong order flow from domestic and export segments. As of date, its order book stood at ~Rs 28,000 crore which corresponds to module deliveries of ~10 GW to be executed over next 2.5 years. Furthermore, 80-85% of the orders (confirmed + pipeline) are from export markets including the US, Canada and Europe amongst others. Apart from the existing orderbook, the group is looking to partner with IPPs to ensure steady offtake going forward. This provides strong medium-term revenue visibility. On the domestic front, the government's high targets in renewable energy installation for the next decade, implementation of approved list of models and manufacturers (ALMM) scheme, imposition of BCD and production-linked incentive (PLI) schemes, and government schemes (with domestic content requirement clause) should lead to healthy demand.

# HYBRID MODEL

---

We have ventured into a hybrid model of solar and wind energy, which helps with grid stability. The hybrid model brings both solar and wind energy together to provide a more reliable, efficient and sustainable approach to renewable energy generation. This model also enables the commercial optimisation of transmission charges and the effective utilisation of grid capacity. We have added new locations and increased our capacity to 346+ MW.

**Our aim is to enhance this hybrid model in the future, as it is very beneficial when it comes to cost efficiency and effective energy generation.**

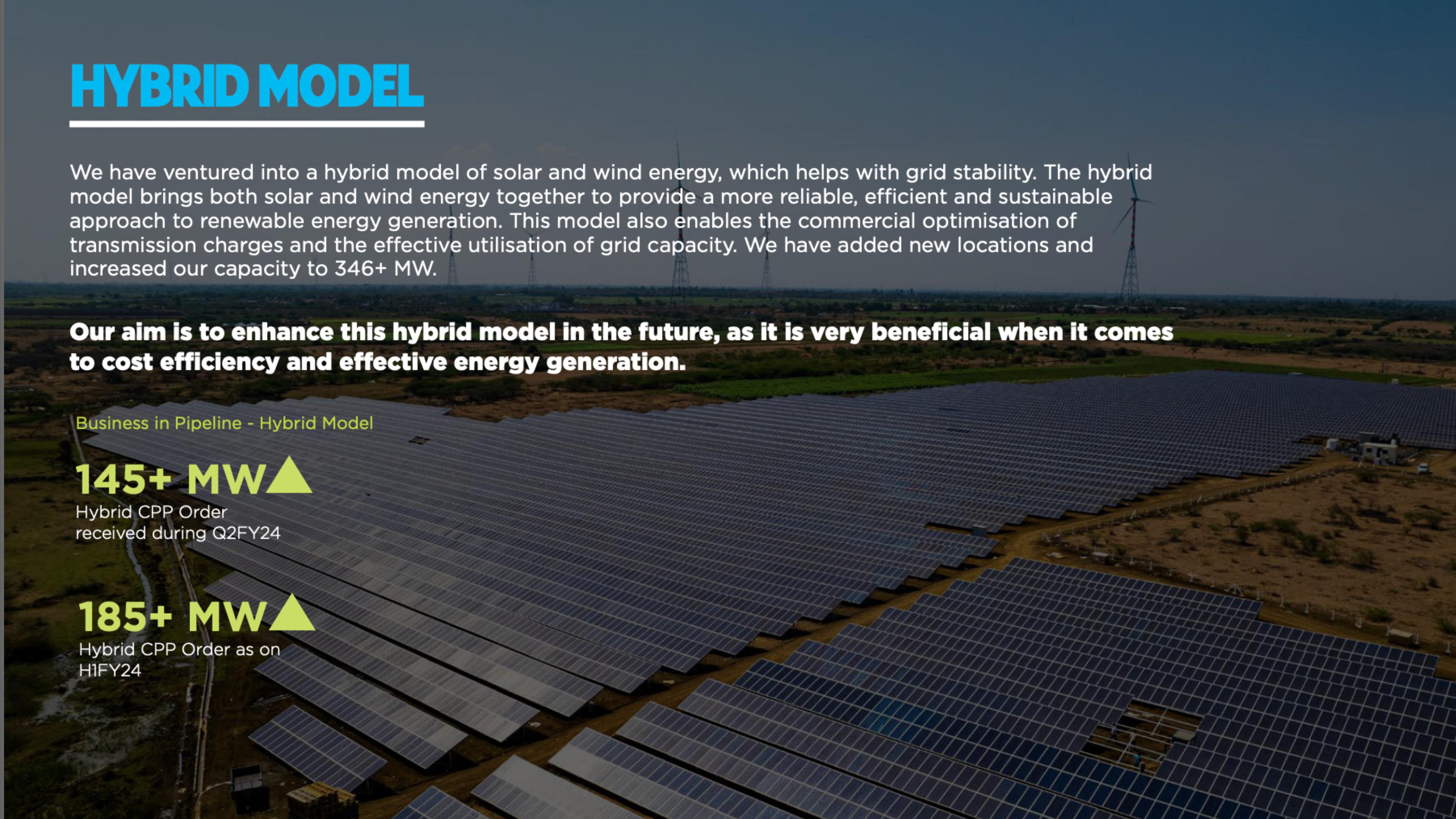
Business in Pipeline - Hybrid Model

**145+ MW** 

Hybrid CPP Order  
received during Q2FY24

**185+ MW** 

Hybrid CPP Order as on  
H1FY24



# INDEPENDENT POWER PRODUCER (IPP)

As a leading Independent Power Producer (IPP), we are a reliable supplier of renewable power to esteemed business houses through Power Purchase Agreements (PPAs). Our plants, strategically located across more than 23 sites in the Bharuch, Bhavnagar & Kutch district of Gujarat, are instrumental in generating clean and sustainable energy. As part of our commitment to advancing renewable energy, we have also proactively energized hybrid renewable energy projects, effectively integrating them into our existing power generation asset portfolio.

## CAPTIVE POWER PRODUCER (CPP)

We are a trusted player in the renewable energy sector, specializing in developing, transferring, operating, and maintaining grid-connected solar power projects for our valued Captive Power Producer (CPP) customers. Through the CPP model, we offer our customers the opportunity to own solar and hybrid power projects tailored to meet their specific requirements. This empowers companies to significantly reduce their electricity expenses, as the cost per unit from captive solar and hybrid plants is notably lower compared to power obtained from DISCOM. In addition to providing the solar and hybrid power projects, we also offer Operation and Maintenance Services (O&M) through separate agreements, ensuring the continued efficiency and guaranteed performance of the installations.



**18%**

Revenue share  
of IPP  
in H1FY24



**82%**

Revenue share  
of CPP  
in H1FY24



**346+ MW**

111+ MW IPP, 181+  
MW CPP & 54+ MW  
in Hybrid Projects  
Energized till H1FY24



**403+MW**

241+ MW IPP, 17+ MW CPP  
& 145+ MW in Hybrid CPP  
Orders received in Q2FY24



**541+ MW**

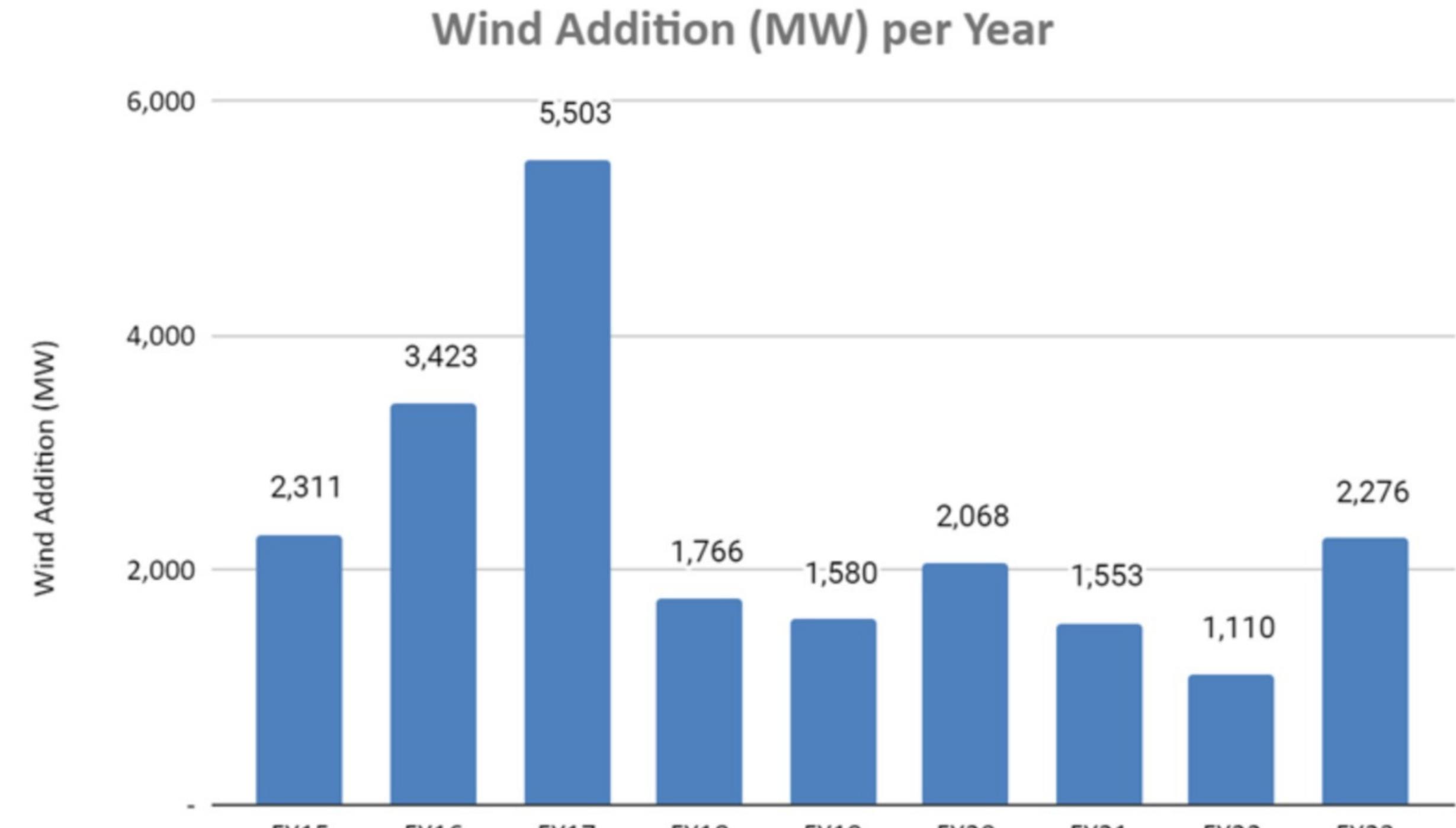
279+ MW IPP, 77+ MW CPP  
& 185+ MW in Hybrid CPP  
Projects Orders in Hand as  
on H1FY24



**48.67%**

Portfolio Hybrid  
CUF (on AC basis)  
in Q2FY24

# Wind Energy: Why did Yearly Installations Drop?



Source – CEA monthly reports

# Wind Energy: Why did Yearly Installations Drop?

## Why Wind Sector went through pain period?

Eg. One of the pain points of the wind sector was reverse e-auction. This auction methodology is similar to the one used in telecom spectrum auctions. This is how reverse e-auction works

All the eligible bidders submit their financial bids. Financial bids are opened and everyone gets to know each other's bid. Every bidder is now given an option to change his bid in public. What this means is that there is a race to the bottom.

**In order to win the auction, bidders aggressively compete with each other and lower the prices at which they are willing to sell electricity.**

Reverse e-auction used between 2017 and 2022 in the wind sector meant that the discovered prices were very low. Many of the developers later realized that it was not feasible to construct these wind power plants and profitably sell electricity at such low rates. Thus, many of the auctions did not convert into wind power projects executed on the ground.

# Wind Energy: Why did Yearly Installations Drop?

## What has changed?

Eg. One of the pain points of the wind sector was reverse e-auction. This auction methodology is similar to the one used in telecom spectrum auctions. This is how reverse e-auction works

Government in Jan-23 has come out with a policy document which talks about changes in the way auctions will be conducted for wind power plants. Reverse auction has been changed to closed envelope single bid auction. This means there will not be a race to the bottom and the tariffs discovered in such auctions will be more sane at the same time being competitive enough that the electricity consumers don't have to pay too high a price.



# Trends in Wind Energy

## Opportunities: Favorable market conditions & strong demand outlook

### Onshore wind power potential in India

695 GW at 120m HH

#### Target

Add wind capacity of ~8 GW p.a. to reach 100 GW by 2030

#### Main Policy Initiatives

- 1 E-reverse bidding discontinued
- 2 New bids to be on a single stage two envelope closed bids basis
- 3 Wind capacity planned in all 8 windy states – shall lead to even growth
- 4 Wind bids of 10 GW p.a. with state specific sub-bids and pooling of tariff
- 5(a) ISTS charges waiver for 25 yrs. for RE projects COD till 30<sup>th</sup> June 2025\*
- 5(b) For COD in every year thereafter, ISTS charges will be levied at 25%, 50%, 75% & 100% of applicable charges respectively for 25 years^

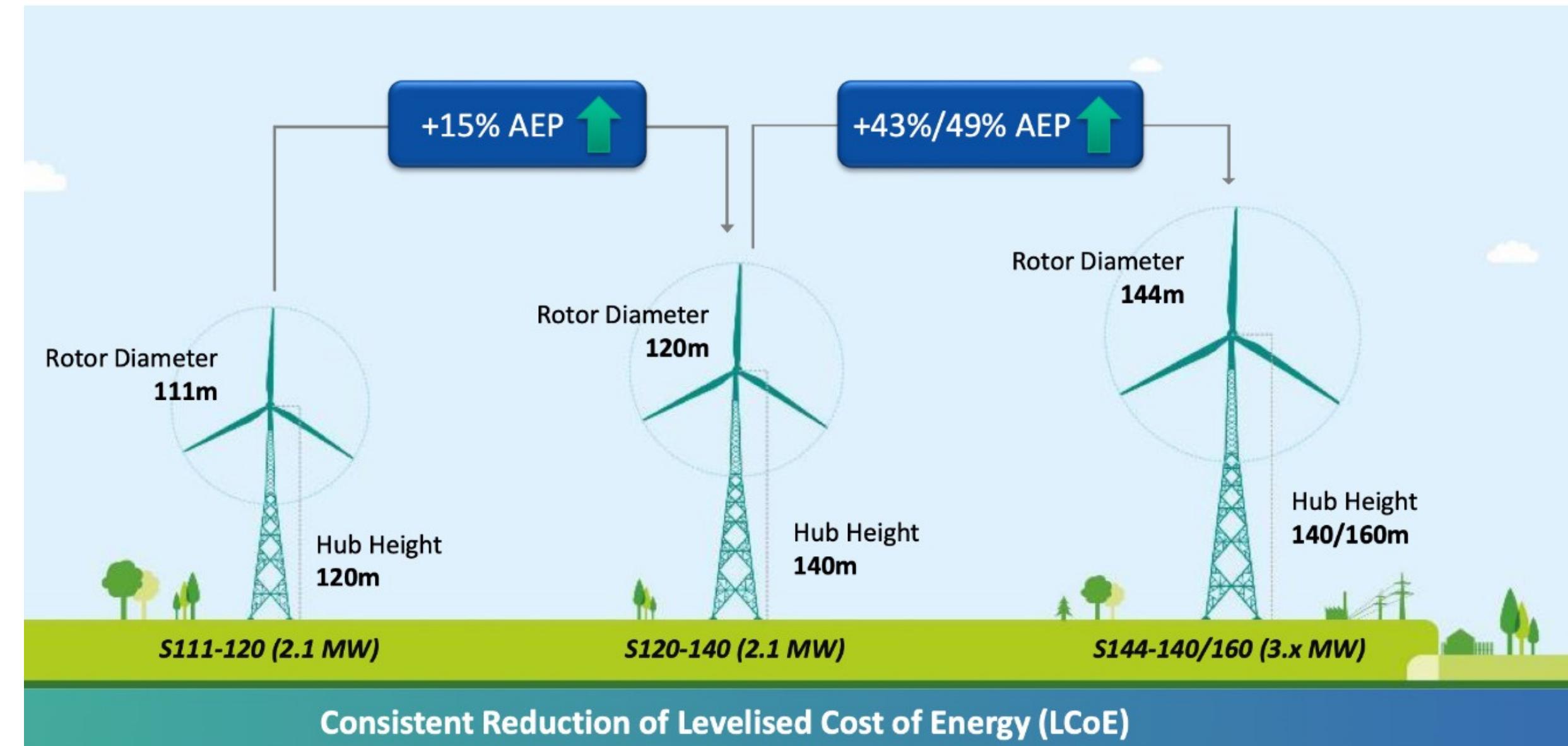
#### Action Plan

RE bids of 50 GW p.a. (incl. 10 GW wind) during FY24-FY28

#### Other Initiatives

- 1 FY24: Monthly bidding plan for RE projects for 50 GW (incl. 10 GW wind)
- 2 RPO trajectory: 24.61% (FY23) to 43.33% (FY30) with wind-specific RPO
- 3 Wind repowering potential identified at 25.4 GW (for old WTGs < 2MW)
- 4 GH2 Mission targets 5 MMT p.a. capacity requiring RE of 125 GW by 2030
- 5 ISTS charges waived for 25 years for RE used for GH2- COD till 31<sup>st</sup> Dec 2030
- 6 New transmission capacity planned at a capex of Rs 2.44 lakh Cr. by 2030

# Trends in Wind Energy



# Trends in Wind Energy

**Wind Turbine Generator:**  
Likes of Suzlon, Inox winds.

**Off Shore Wind Turbine Fasteners:**  
Sundram Fasteners

**Wind Turbine bearings:**  
Timken, Schaeffler

**Wind Turbine Crane Service:**  
Sanghvi Movers

**Generators for Wind Turbines:**  
TD Power

**Bronze Bushes:**  
Harsha Engineering



# Supplementing Verticals

## INDEPENDENT POWER PRODUCERS (IPP)



**18.4 MW**

KP Energy has its own renewable energy generation capacity of 18.4 MW including wind energy assets of 8.4 MW (4\*2.1 MW) and a 10 MWdc solar power plant



### Dual Objectives of becoming an IPP

Strategic set-up: providing assurance to clients about the quality of assets and annuity- based income to the Company

## OPERATIONS & MAINTENANCE (O&M)



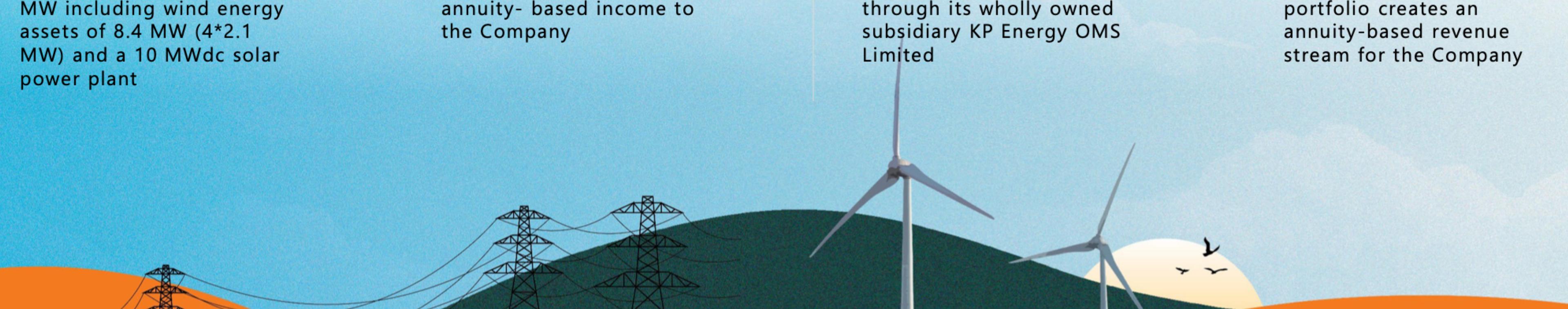
### O&M services

Provides O&M services for Balance of Plant (BOP) portion of windfarms through its wholly owned subsidiary KP Energy OMS Limited



### EPCC directly drives the growth of this segment.

EPCC directly drives the growth of this segment. However, the existing portfolio creates an annuity-based revenue stream for the Company



# EPCC Scope of Services



## **SITE IDENTIFICATION & ACQUISITION**

Our key competence is identifying and acquiring good windy sites for utility scale wind farms

## **SITE PREPARATION**

We construct access roads and fetch ROWs in tough and challenging situations

## **CONSTRUCTION & ERECTION**

WTG civil foundation, 33kv USS & internal network as well as logistics, installation & erection of Wind Farms and Wind-Solar Hybrid Power projects.

## **POWER EVACUATION**

We undertake EPCC of 33/66 & 33/220 kv pooling substation and EHV lines

## **PERMITS & APPROVALS**

We obtain all requisite permits & approvals from government authorities for the project execution and its operational life thereof

## **OPERATIONS & MAINTENANCE**

O&M services for the entire BOP portion of wind farm for its operational life

# Company Snapshot

KP Energy Limited is Gujarat's prominent balance of plant solution provider in Wind Industry engaged, from conceptualization till the commissioning of a wind energy & wind-solar hybrid power project.

**#1**

Gujarat's #1 BOP solutions provider for Wind Projects and Wind & Solar Hybrid Projects



**1,031.8 MW**

Business Pipeline of 888.1 MW and Projects Under Execution totaling 143.7 MW at various sites

**726.6 MW**

Capacity energized till date including CTU and STU projects

**18.4 MW IPP**

Operational 4 wind energy assets having capacity of 2.1 MW each and 10 MW dc solar power project

**888.1 MW**

Business Pipeline of 888.1 MW

**₹828 CR**

Market Capitalization as of 10<sup>th</sup> August 2023

**1,000+**

Qualified, experienced and committed team of 1,000\* people, across technical, commercial, execution & corporate functions

**143.7 MW**

Projects Under Execution totaling 143.7 MW at various sites

**KP Energy OMS**

O&M services for BOP infrastructure developed by KP Energy are managed under wholly-owned subsidiary KP Energy OMS Limited

**BSE Listed**

Scrip Code: 539686

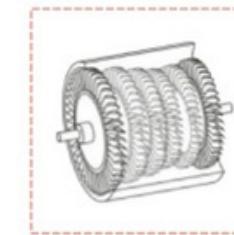
**Hybrid**

Delivering EPCC solutions for Wind-Solar Hybrid Projects

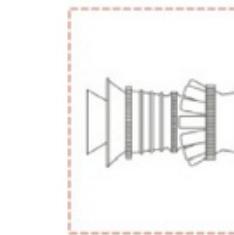
# Trends in Wind Energy

## Diversified Products for Multiple End User Industries

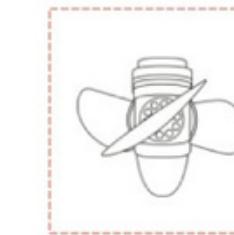
### Generators for Turbines



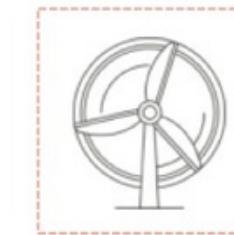
Steam - upto 250MVA



Gas - upto 250MVA

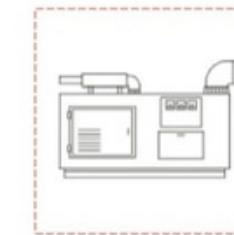


Hydro - upto 45MVA

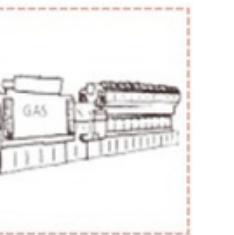


Wind\*

### Generators for Engines

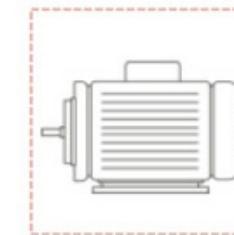


Diesel - upto 25MVA

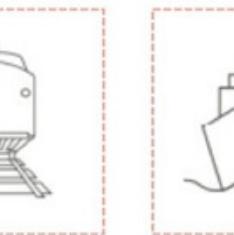


Gas - upto 25MVA

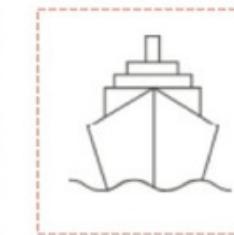
### Generators for Special Applications



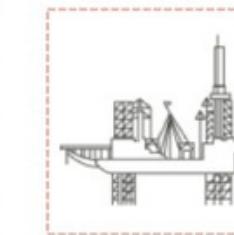
Motor/Engine/  
Transformer Testing



Locomotive\*



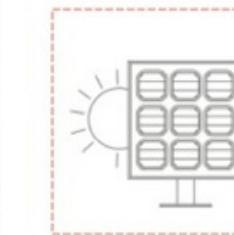
Marine/Naval\*



Oil & Gas\*



Geothermal\*



Solar Thermal\*

**tdps**<sup>®</sup>

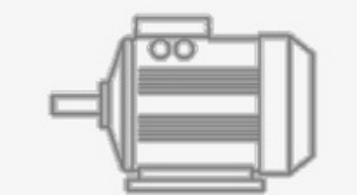
### Motors



Induction Motors



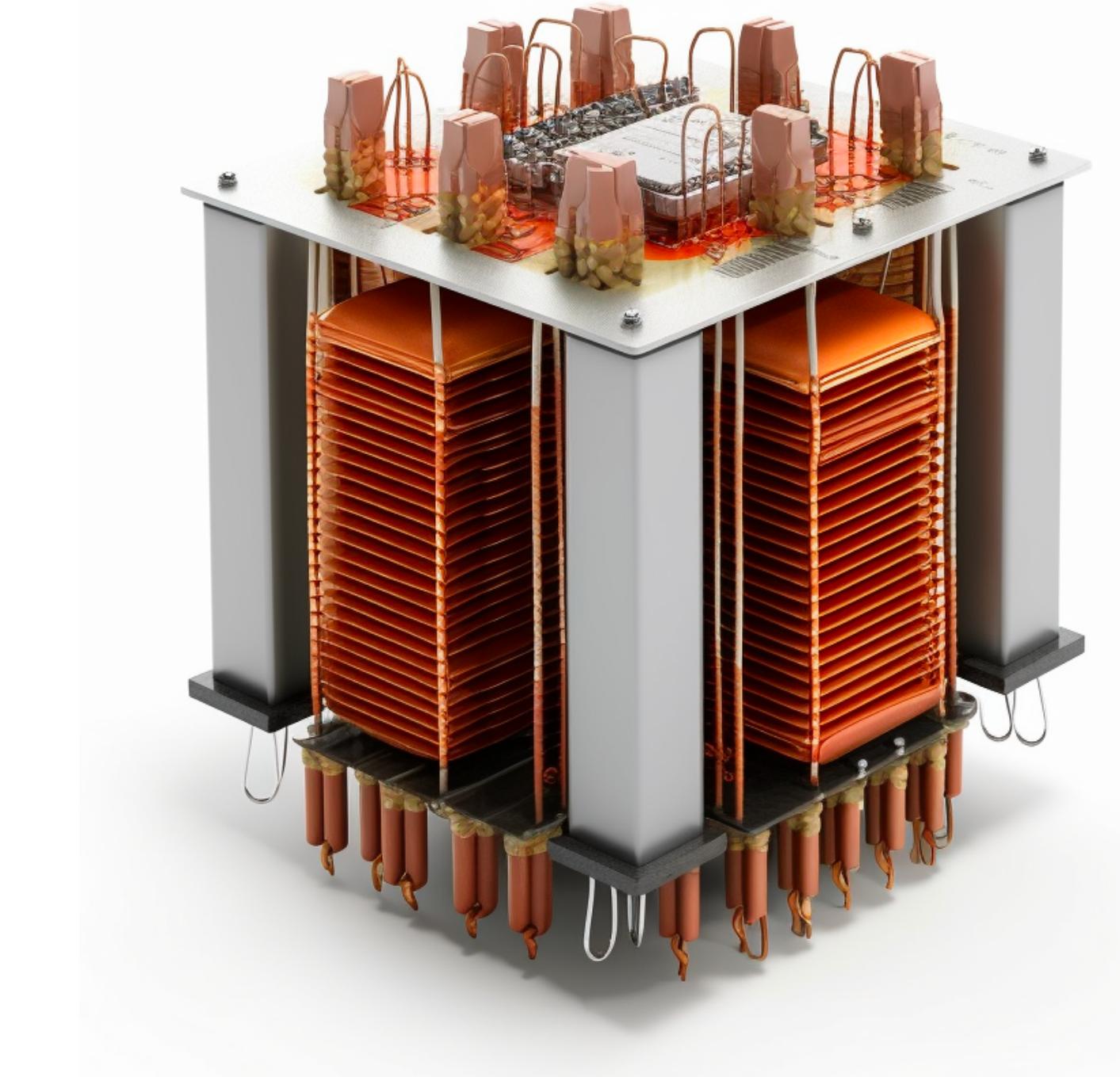
Synchronous Motors



Traction Motors

We deliver world class  
Generators for the World

# What are Transformers?

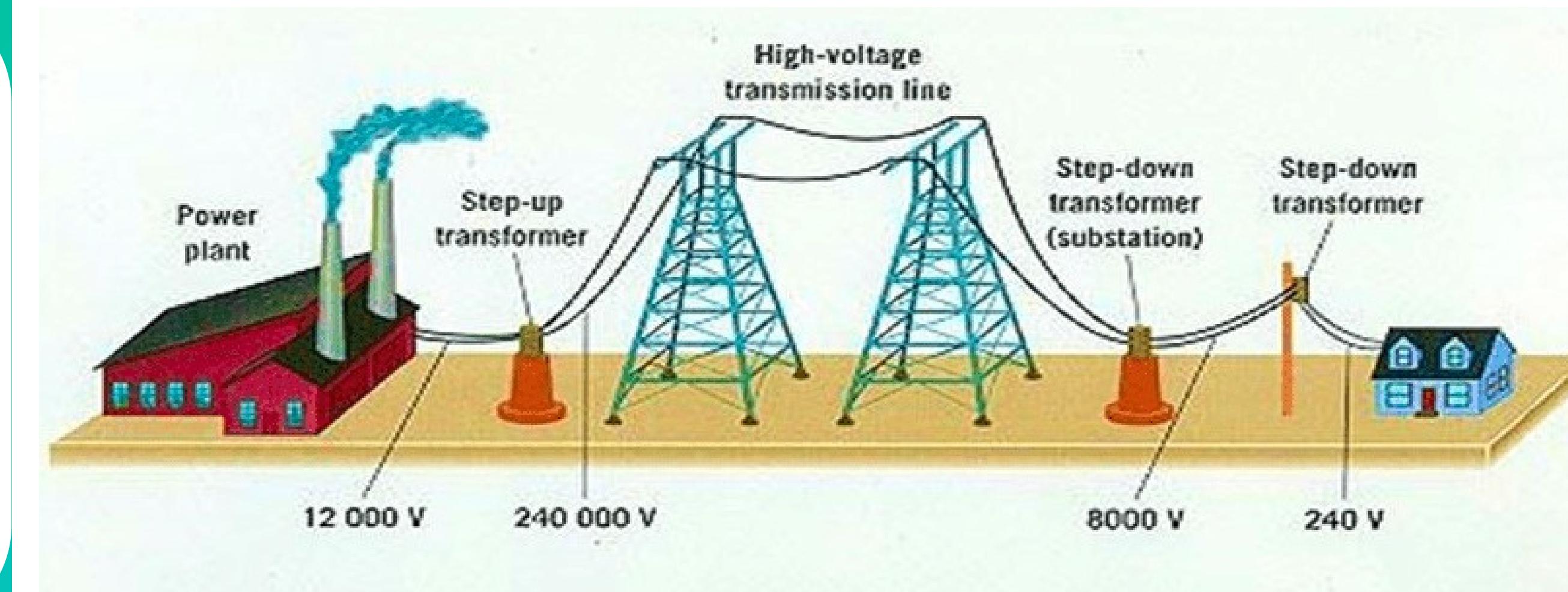


**Power transformers** are electrical instruments used in **transmitting** electrical power from one circuit to another **without changing the frequency**.

They operate by the **principle of electromagnetic induction**. They are used in **transmitting electrical power** between **generators** and distribution **primary circuits**.

It is widely used to step up and **step down voltages** at the **electrical power generating** station and distribution station respectively

# What are Transformers?



# Transformers: Power, Distribution, Furnace etc.



Classification of transformers	Range	Types
Power Transformer	Upto 1200 kV class	Generator transformer, Unit Auxiliary transformers, Step up & Step down transformers, Interconnecting Auto transformers, Dual Voltage Primary or Secondary Three winding transformers
Shunt Reactor	Upto 765 kV class	Reactors upto 765 kV class
Distribution Transformers	160 kVA and above	Earthing transformers, Three winding transformers, Step up & Step down transformers, Dual voltage Primary or Secondary
Furnace Transformers	220MVA/101KA	Arc Furnace, Induction Furnace, Laddle Arc Furnace and Submerged Arc Furnace transformers
Rectifier Transformers	100 KA DC	For DC power sources for Melt and Chemical Industries

## Conventional Capacity Addition

10 GW in next 3 years

Estimated Capitalization - ₹80,000 crore

## RE Capacity Addition

16 GW in next 3 years

Estimated Capitalization - ₹85,000-90,000 crore

## Thermal Capacity Ordering

7.2 GW by next fiscal

Ensuring Nation's Energy Security



## Coal Mining

23 MMT in FY23, growth of 65%

Target to cross 34 MMT in FY24

## FGD Commissioning

60 GW in next 3 years

Estimated Capitalization - ₹30,000 crore

## Commercial & Industrial (C&I) Market

Definite Bilateral tie-ups for 10 GW RE capacity

Discussion on with many other C&I consumers

NTPC RE@PRESENT	GW
Installed	3.3
Under Construction	5.9
Under Pipeline (Bids won/ Bilateral tie-ups)	10.8
<b>Total</b>	<b>20.0</b>



**60 GW**  
**Renewable**  
**Capacity by**  
**2032**

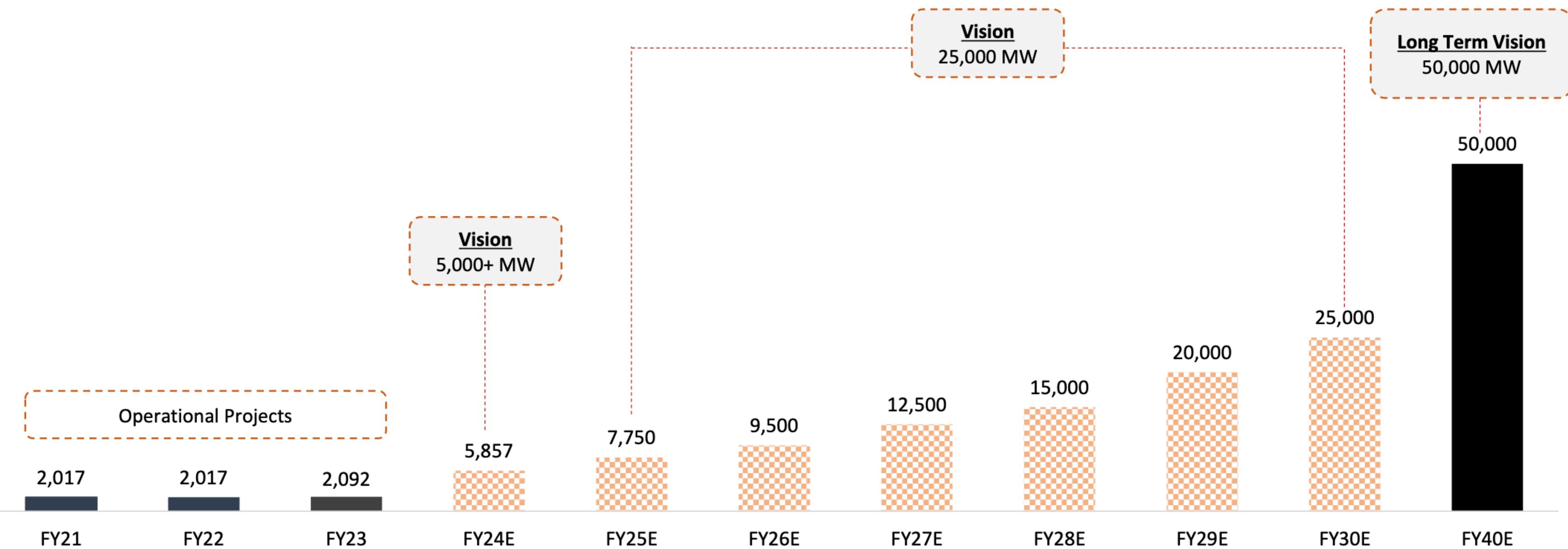
## Key Highlights

- Highest RE Capacity Addition of 1.35 GW in FY23
- Doubled RE Generation to 4.9 BUs in FY23
- Largest floating solar portfolio of 262 MW in India
- Commissioned our biggest solar project (Shimbhoo Ka Burj) of 400 MW in a single location
- Implementing and planning 36 GW RE capacity in different states through UMREPP scheme
- Pumped Storage Projects of 39 GW indicated to NTPC Group for development

# Well Positioned to grow Exponentially



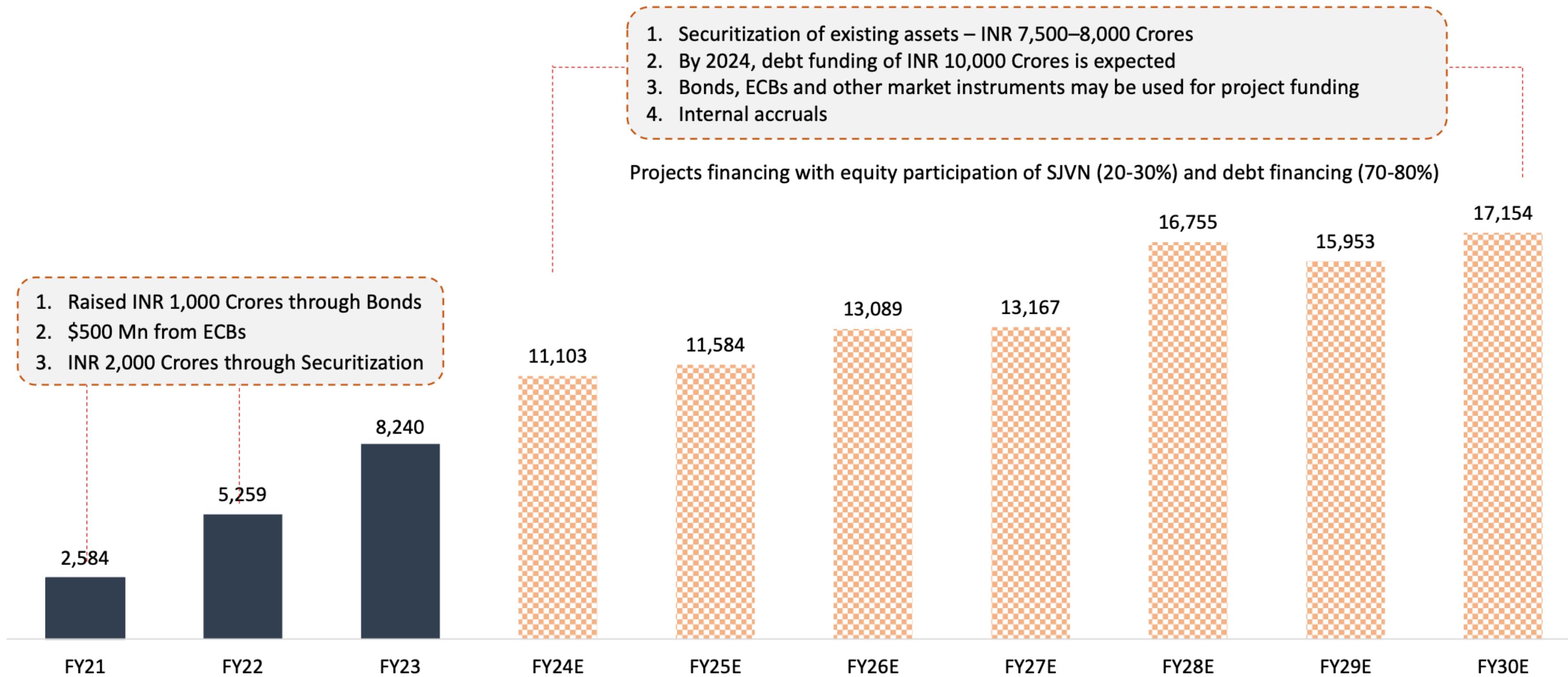
## Capacity Addition due to Identified Projects (MW)



# Capex Plan to Support Project Execution



## YoY capex vis-a-vis funding guidance (INR Crores)

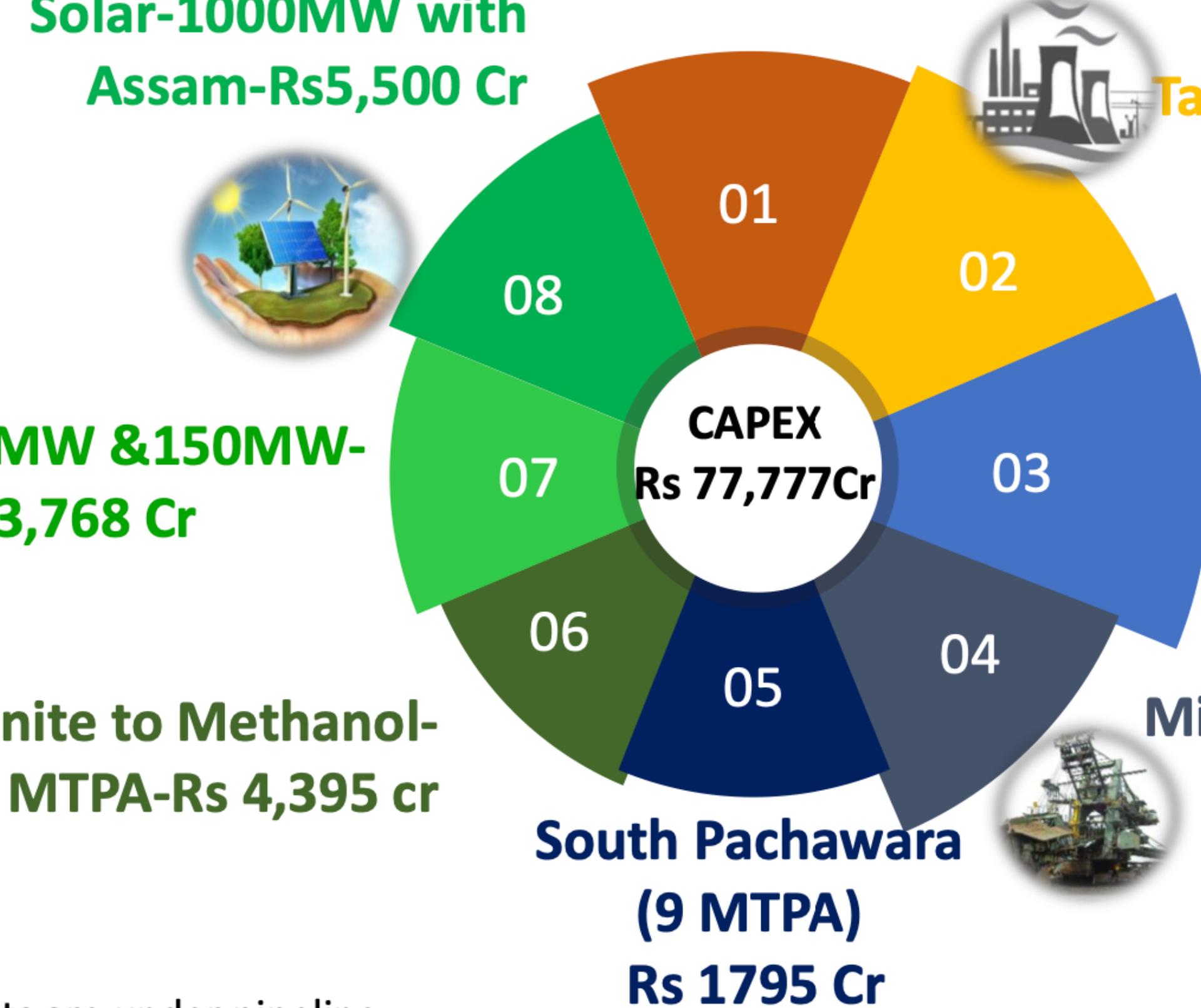


**Solar-1000MW with  
Assam-Rs5,500 Cr**



**Solar-510MW &150MW-  
Rs 3,768 Cr**

**Lignite to Methanol-  
0.4 MTPA-Rs 4,395 cr**





# NLCIL @2030

**Lignite: 32.1 MTPA**  
**Coal : 20 MTPA**

**NLCIL: 3640 MW**  
**JV : 1000 MW**

**Solar : 1370 MW**  
**Wind : 51 MW**

Mining

CAPEX Planned: Rs. 8,351 Cr

Thermal Power

CAPEX Planned: Rs. 46,023 Cr

Renewable Power

CAPEX Planned: Rs. 23,403 Cr

**Lignite: 40.1 MTPA**  
**Coal : 44 MTPA**

**NLCIL: 8160 MW**  
**JV : 2980 MW**

**Solar : 5880 MW**  
**Wind : 151 MW**

**Total CAPEX Planned: Rs. 77,777 Cr**



# SOIC BUSINESS ANALYST BUNDLE FOR ALL!

- 1 Why Equity Analysis and ways to die in the Markets?
- 2 Basics of Balance Sheet, Cash Flow and Income statement.
- 3 Ratio Analysis mastered: ROIC, ROCE, Gross Margins, EBITDA Margins, D/E etc.
- 4 Forensic Analysis: A case study based approach+Excel sheet of multiple shenanigans
- 5 Why Industry structures matter?
- 6 How to think about moats and moats in the Indian context!
- 7 SOIC's 5 bucket framework with valuations.
- 8 Valuation approach and when to hold, buy and sell a stock.
- 9 Portfolio approach: Diversify or concentrate?



# SOIC FINANCIAL LITERACY MASTER CLASS!

- 1 Why India and basic introduction to the markets
- 2 Time Value of money: Master your own Financial Plan
- 3 Financial Planning: for 20 year old, 30 year old and 40 year old + all age groups.
- 4 PE Ratio based approach and sentiment indicators: When is the market expensive?
- 5 All about Mutual Funds & how to filter them!
- 6 All about ETF's and Index Funds.
- 7 Index Funds vs Active funds
- 8 All about Gold: to invest or to not invest in this asset class?
- 9 All about Housing: to rent or buy a house?
- 10 All about Cryptocurrency: next big thing or a fad?
- 11 All about insurance: Health + Term
- 12 What not to do and what to do



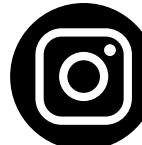
# SOIC BECOME A SECTORAL EXPERT!

- 1 SOIC Agrochemical webinar: India's right to win?
- 2 SOIC Banking webinar: Crisis and opportunity
- 3 SOIC Chemical Webinar: China + 1?
- 4 SOIC Insurance Simplified
- 5 SOIC Real Estate Webinar
- 6 SOIC Hospital Sector Analysis: Healthcare for all
- 7 SOIC IT sector: Tech is Loading
- 8 SOIC Platform Webinar: Modern Monopolies?
- 9 SOIC Pharma Sectoral Analysis

- 10 SOIC Fluorine Sectoral analysis: Another Megatrend?



# CONNECT WITH US ON:

-  [www.soic.in](http://www.soic.in)
-  [SOIC](#)
-  [@soicfinance](#)
-  [@Intrinsic Compounding](#)
-  [@Intrinsic Compounding](#)
-  [Intrinsic Compounding](#)
-  [info@soic.in](mailto:info@soic.in)