

# RENEWABLE ENERGY: INDIA OPPORTUNITY

---

# NET ZERO BY 2070

## SOLAR & WIND ENERGY

capacity **more than tripled** in last few years

**Making India:**

**4<sup>th</sup> Largest globally**

**38 GW**

2015

**179 GW**

2023

RE Installed Capacity

## By 2030, India will achieve...



**500 GW** non-fossil capacity



**50%**

Renewable energy supply



**1 Bn Ton**

Reduction in carbon intensity



Carbon intensity below **45%**

**50 GW of annual RE capacity addition  
for next 5 years (FY23-FY27)**

# MOST ATTRACTIVE MARKET FOR CLEAN ENERGY

USD 70 Bn+ invested in Indian RE since 2014

1<sup>st</sup>

**Most attractive emerging** market for investments in 2021

USD  
21  
Bn

**Green Bond Market**

- Sovereign Gr. Bonds worth **USD 1.93 Bn**





USD  
800  
Bn

**Investment potential** in the Indian RE in the **next decade**

USD 7 Bn FDI in Renewables since 2019

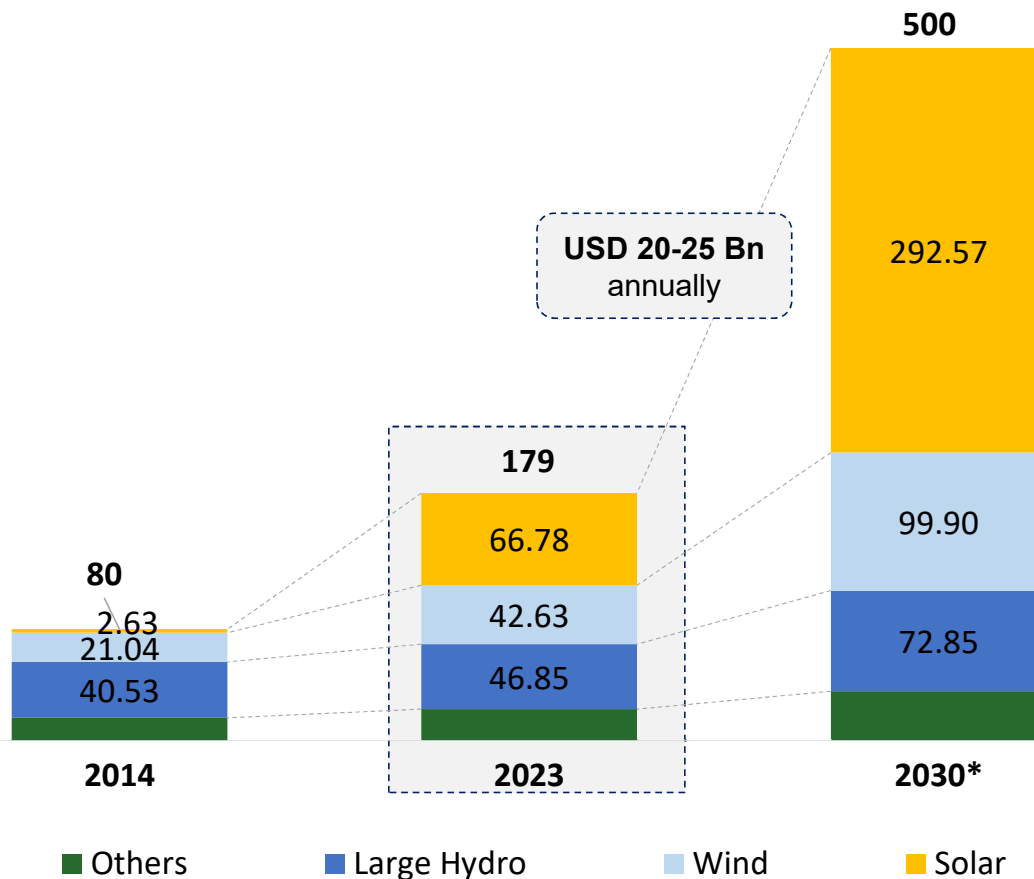
## Notable Investments in India's RE Sector

– Average Equity IRR at 13.3%

Country	Fund	Investee IPP
	ADIA	ReNew Power, Greenko
	Mubadala	Tata Power Renewable Energy, Hero Future Energies
	GIC	Greenko
	Temasek Holdings	O2 Power, Sembcorp Green Infra
	Brookfield	CleanMax, Axis Energy
	CDPQ	Azure Power, Apraava Energy
	KKR	Serentica Renewables, IndiGrid, Virescent
	Goldman Sachs	ReNew, Adani Power

# INDIA LANDSCAPE

2.2x growth in installed capacity over the last decade...



## Ecosystem Enablers

Green Energy Corridor

Green Energy Open Access Rules 2022

Waiver of Inter State Transmission System (ISTS) charges

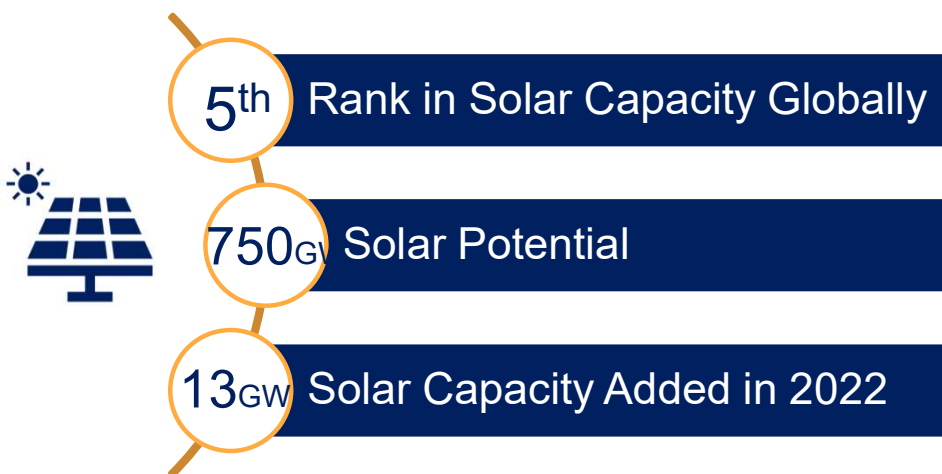
Green Term Ahead Market (GTAM)

Renewable Purchase Obligation (RPO) up to the year 2029-30



Renewable Energy Implementing Agencies (REIAs)

# SOLAR ENERGY

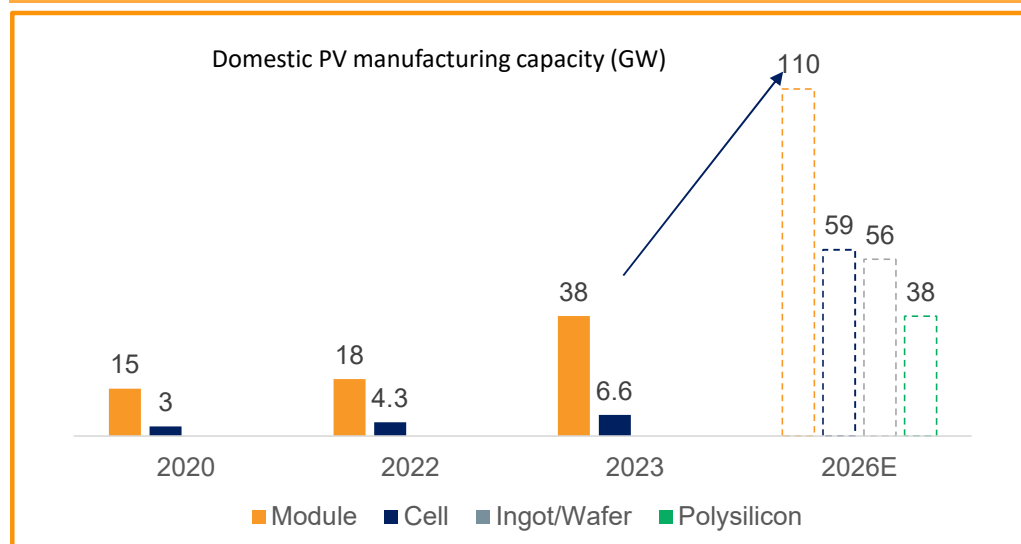


## Government initiatives

1. PLI Scheme for high efficiency PV modules
2. Solar Parks scheme
3. Rooftop solar program
4. Basic Customs Duty on Cells & Modules

## SOLAR PV MODULE MANUFACTURING

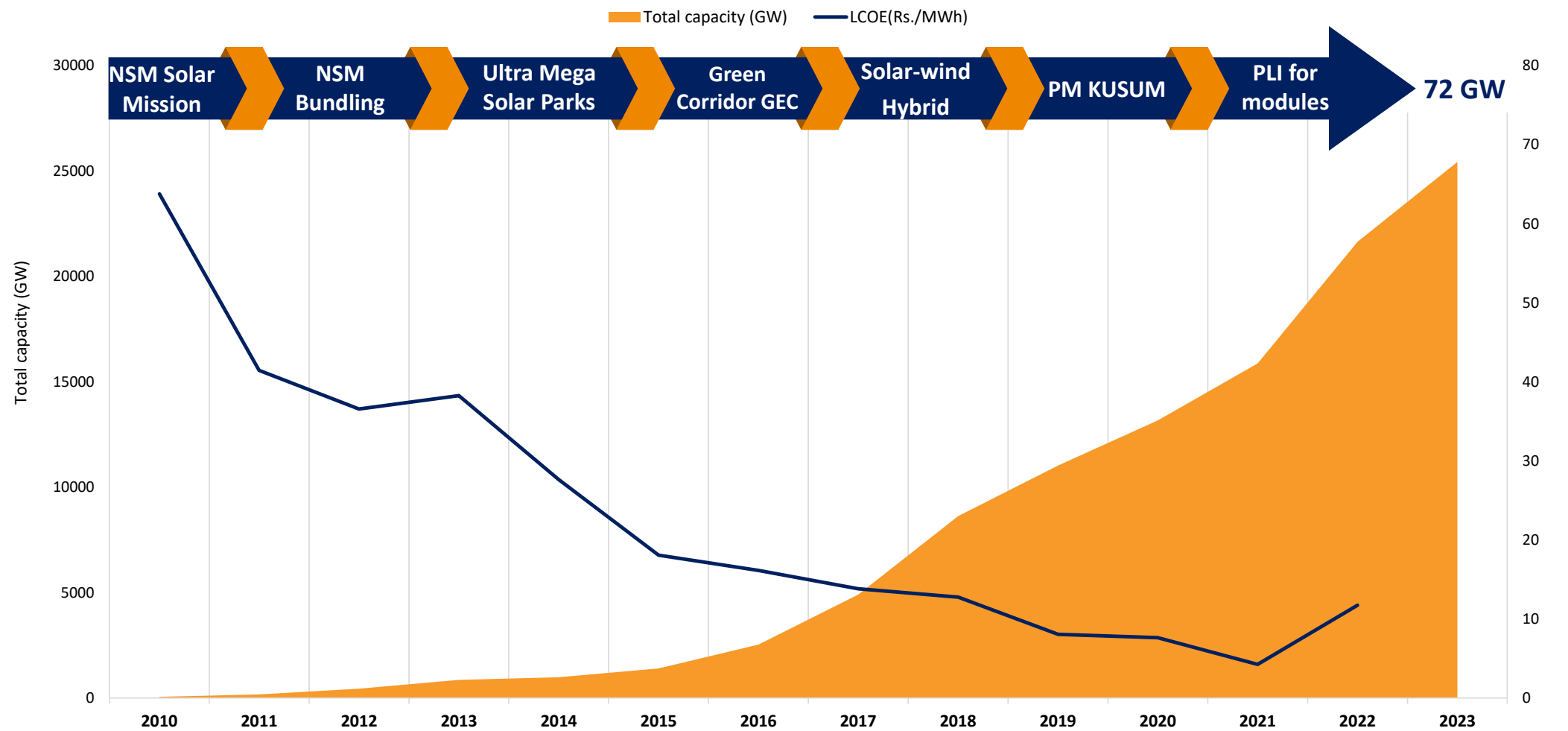
Module manufacturing capacity doubled from Mar'22 to Mar'23



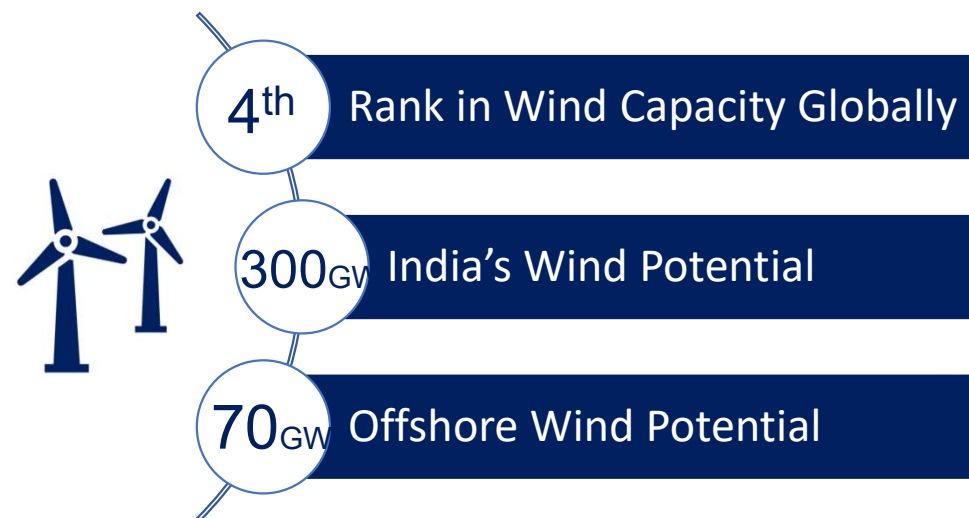
## Key Players



# 25x GROWTH IN SOLAR CAPACITY SINCE 2014



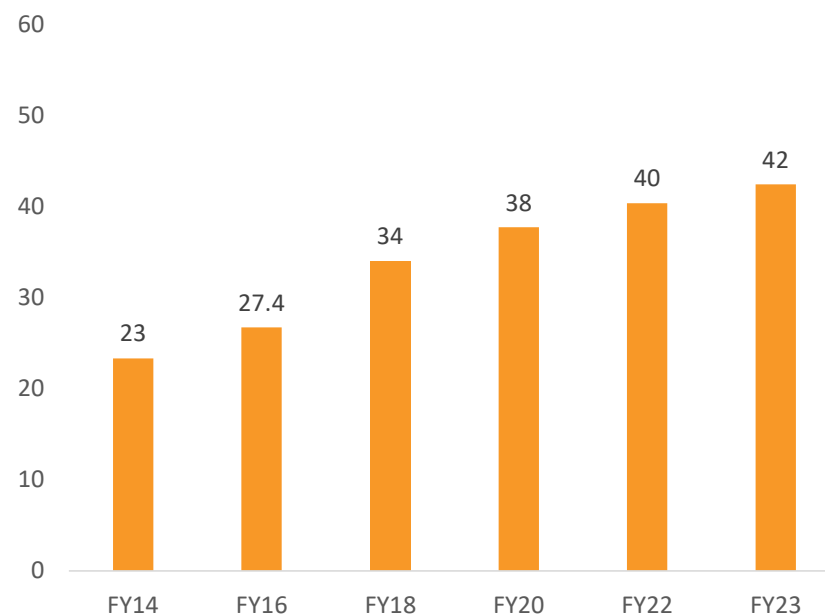
# WIND ENERGY



## Government initiatives

1. National Repowering & Life Extension Policy
2. Offshore wind promotion
  - Bid Trajectory for 37 GW capacity has been demarcated for Tamil Nadu and Gujarat
3. Separate RPO trajectory for wind

Installed Wind Energy Capacity (GW)



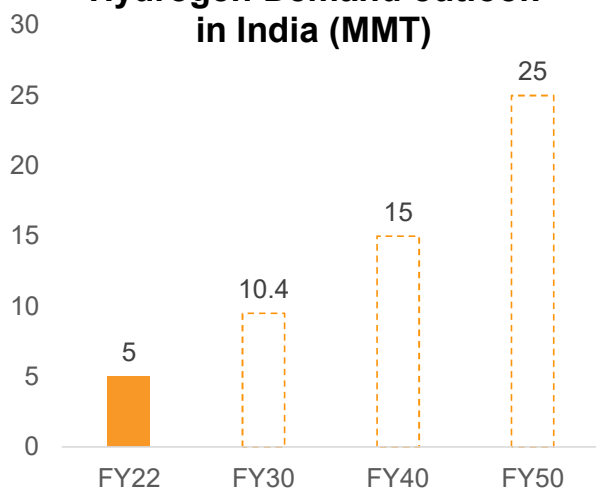
## Key Players



# GREEN HYDROGEN

## Demand Outlook

### Hydrogen Demand outlook in India (MMT)



Current demand drivers:

- **Ammonia (2.8 MT) & Refinery (2 MT)**

Future demand drivers:

- **Green Steel & Heavy Duty Vehicles**

## Growth Drivers

### Supply Side Drivers

- **Abundant and Affordable Renewable Energy: 170 GW+**
- **Declining Electrolyser costs:** decline of 50% in last 8 years

### National Green Hydrogen Mission Components

- **SIGHT Programme** – Incentives for manufacturing electrolyzers and green H2 production (**\$2.1 Bn**)
- **Pilot Projects** for steel, mobility, shipping etc (**\$177 Mn**)
- **R&D projects** (**\$94 Mn**)

## Future Outlook



**5MMT GH2**  
production capacity  
**\$8 Bn** market  
**10%** global demand



**\$340 Bn** market