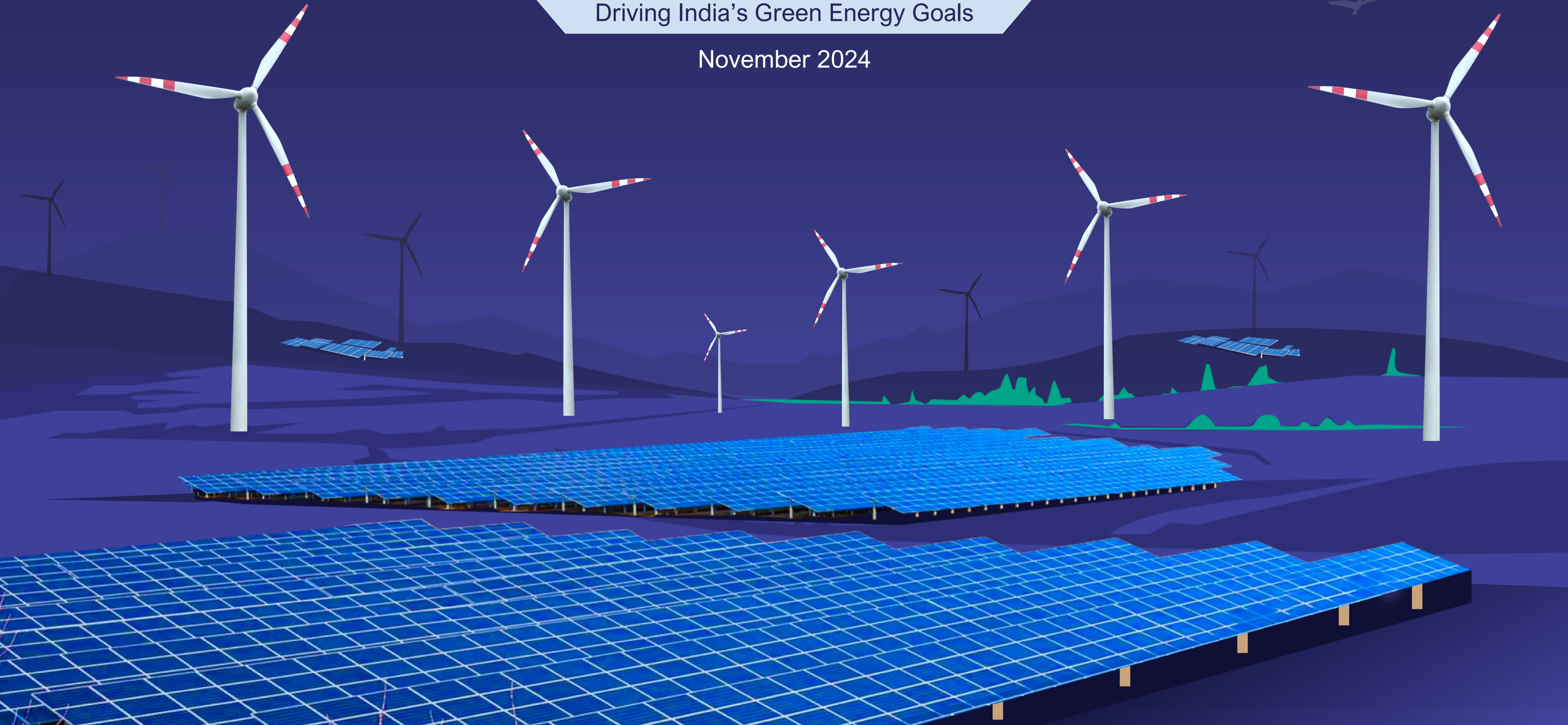


# Renewable Energy in India

Driving India's Green Energy Goals

November 2024



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# Overview of RE in India

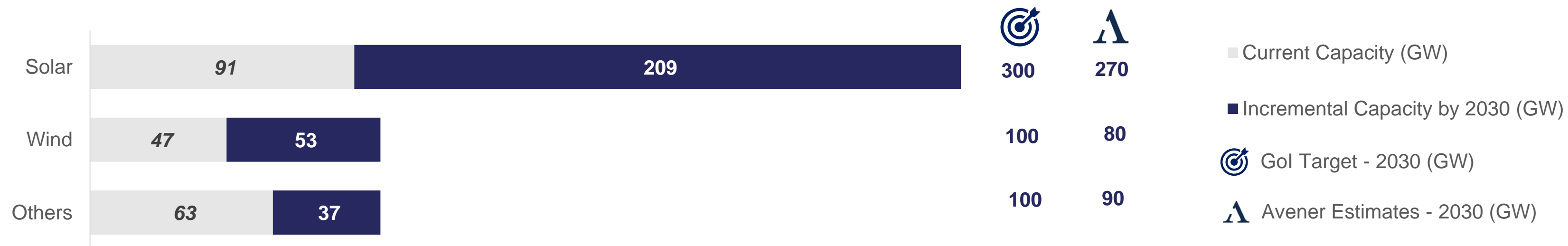
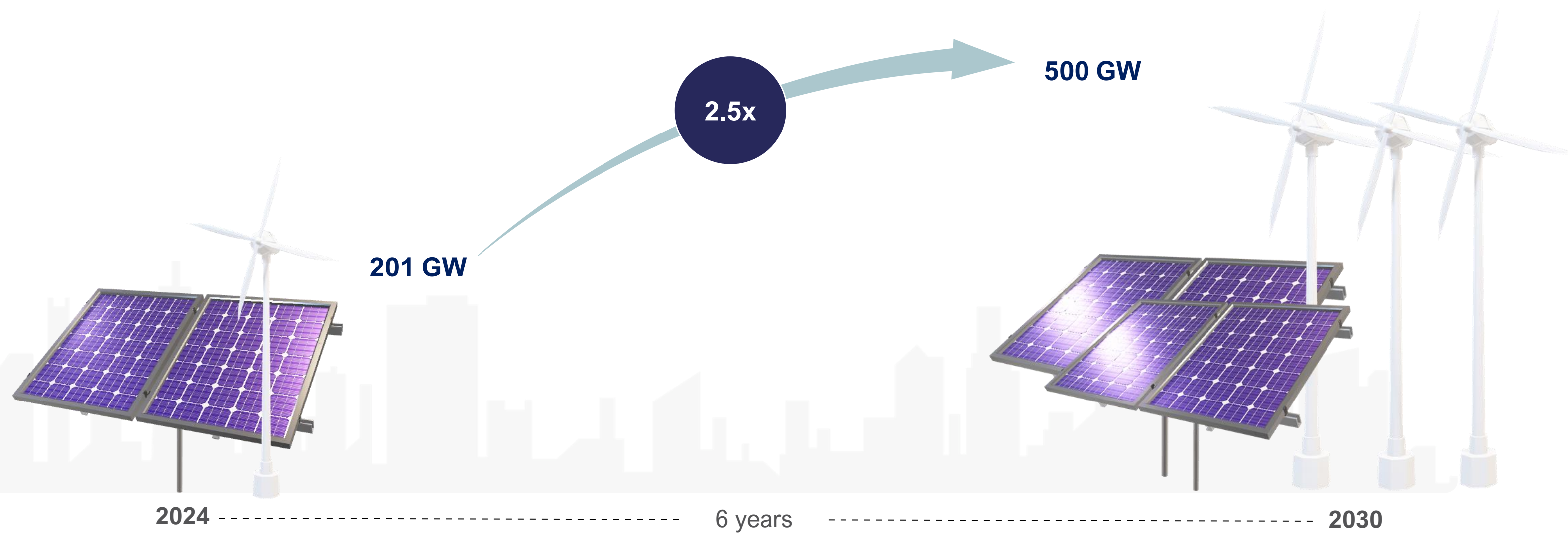
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Current RE Landscape, Government Initiatives and Demand Supply Dynamics



# Renewable Energy - An Exponential Growth Opportunity

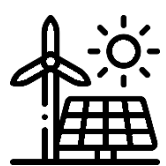
Key for India to achieve its sustainability objectives



## India's Sustainability and Energy Goals to Drive Growth in RE



500+ GW by 2030



50% Energy Requirement from RE



Net Zero by 2070

Source: Economic Survey'24, PIB, Public Sources, CEA & Avener Estimates  
1 USD= INR 83

## Top 5

In Solar & Wind Capacity

## ₹ 30 Lakh Cr

Opportunity in next 5 years

## ₹ 1.5 Lakh Cr

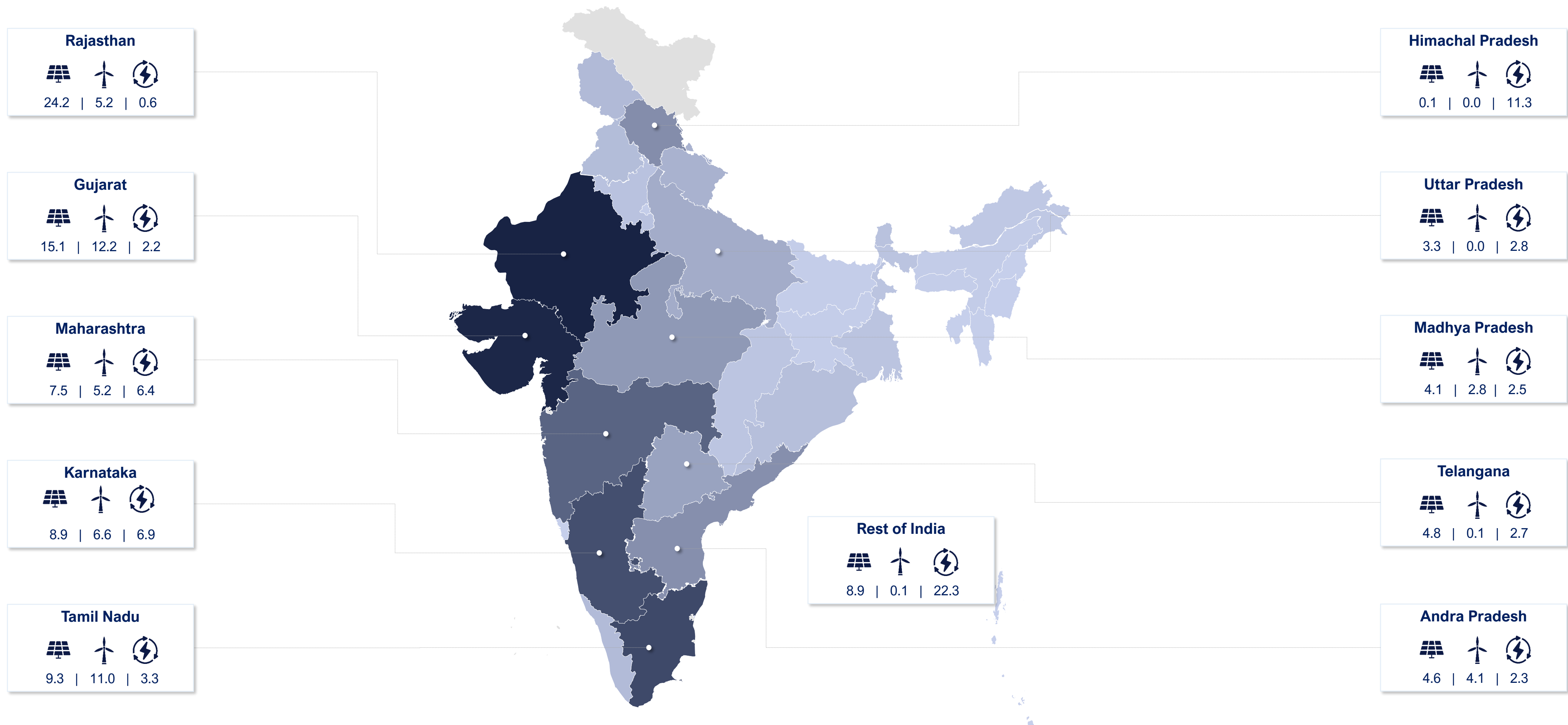
FDI received

## 13%

RE share in total energy generation in FY24

# Snapshot of India's RE capacity


Installed RE Capacity grew at a CAGR of 20% in the past decade



Western India to drive growth in RE, owing to its strategic location and RE potential

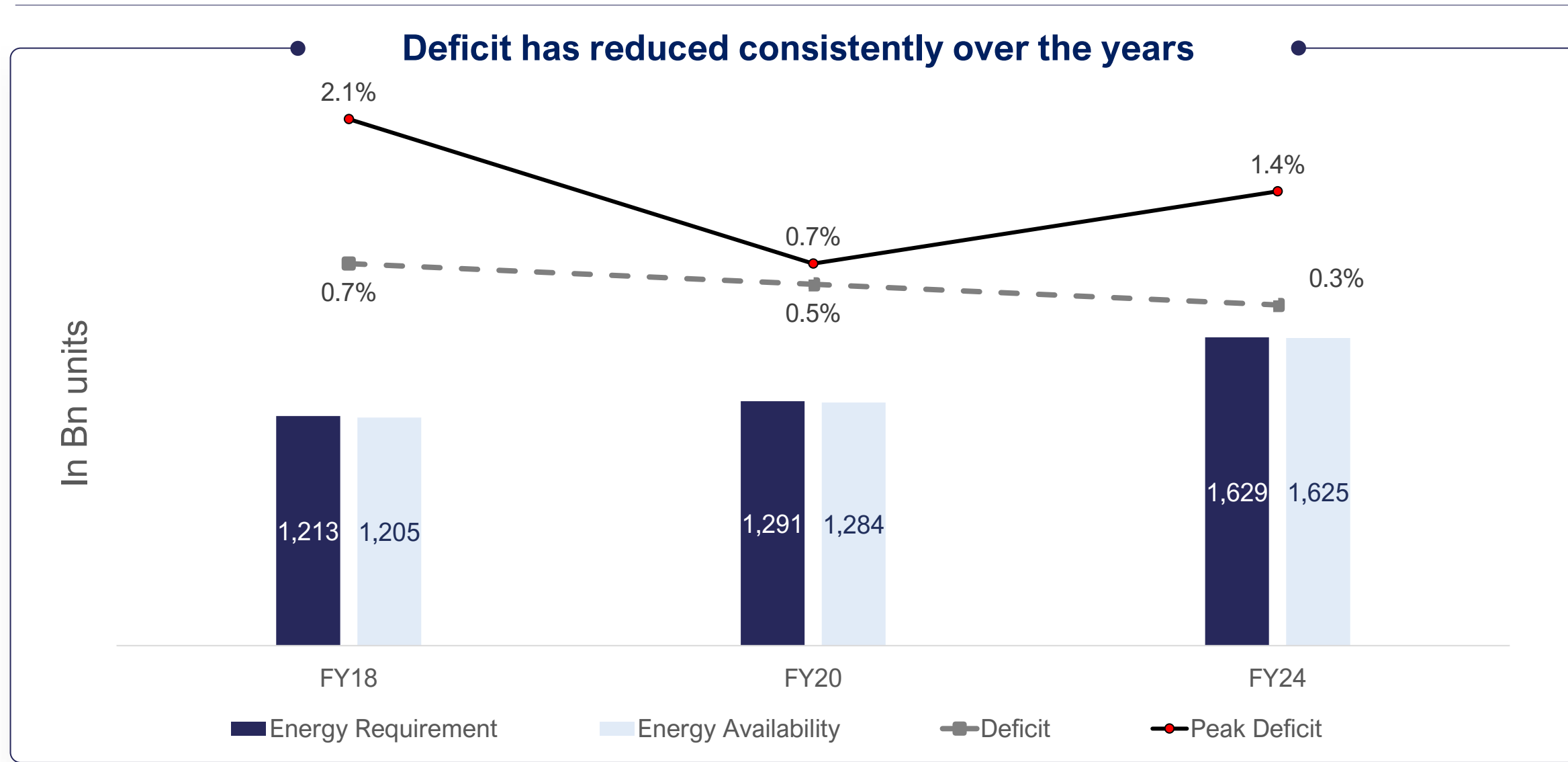
# Policy Initiatives for Implementation of RE

Multiple schemes announced to incentivize investments and promote domestic production

 <b>CPSU</b>	 <b>ISTS</b>	 <b>PM KUSUM</b>	 <b>Green Energy Open Access</b>	 <b>ALMM</b>	 <b>PLI</b>	 <b>Repowering</b>
<ul style="list-style-type: none"> <li>Implementing agency – SECI, NTPC and IREDA. Currently SJVN &amp; NHPC are also acting as implementing agencies</li> <li>Promotes solar power generation by offering VGF of INR 70 lakhs per MW (INR 55 lakhs from Tranche III)</li> <li>Maharatna CPSUs, OMCs plan to set up larger RE projects</li> </ul>	<ul style="list-style-type: none"> <li>Waiver of ISTS charges to encourage RE development</li> <li>Scheme extends to solar, wind, offshore wind, PSP, BESS and Green H2</li> <li>Results in tariff reduction by INR 0.8-1.2/unit which is c.1/3<sup>rd</sup> of Solar tariff &amp; c.1/4<sup>th</sup> of tariffs for Hybrid projects</li> </ul>	<ul style="list-style-type: none"> <li>Launched in Jul'19 with capital outlay of INR 35,000 crs</li> <li>10,000 MW of decentralized grid connected RE plants to be established</li> <li>14 lakh standalone solar agricultural pumps to be installed</li> <li>Solarize 35-50 lakh grid connected solar pumps</li> </ul>	<ul style="list-style-type: none"> <li>Rules notified in June'22</li> <li>Facilitate the generation, purchase, and consumption of RE by allowing consumers to access green power directly from producers or through power exchanges.</li> </ul>	<ul style="list-style-type: none"> <li>Launched in CY19 to boost domestic production</li> <li>From Apr'26, PV cells used in modules are also to be manufactured in India</li> <li>Green H2 projects currently not under the scheme's ambit</li> </ul>	<ul style="list-style-type: none"> <li>Implementing Agency: IREDA and SECI</li> <li>T1 Capacity: 8,737 MW solar PV module manufacturing units</li> <li>T2 Capacity: 39,600 MW solar PV module manufacturing units</li> <li>Outlay: T1: INR 4,500 Cr T2: INR 14,000 Cr</li> </ul>	<ul style="list-style-type: none"> <li>New Policy unveiled in 2023</li> <li>Aims to maximize energy yield</li> <li>Aims to replace old turbines with new ones</li> <li>Interest rate rebate of 0.25% offered by IREDA for repowering projects</li> </ul>

# Power Demand – Supply Dynamics

India's high energy requirements to be met by robust RE capacity additions



**Power Demand**

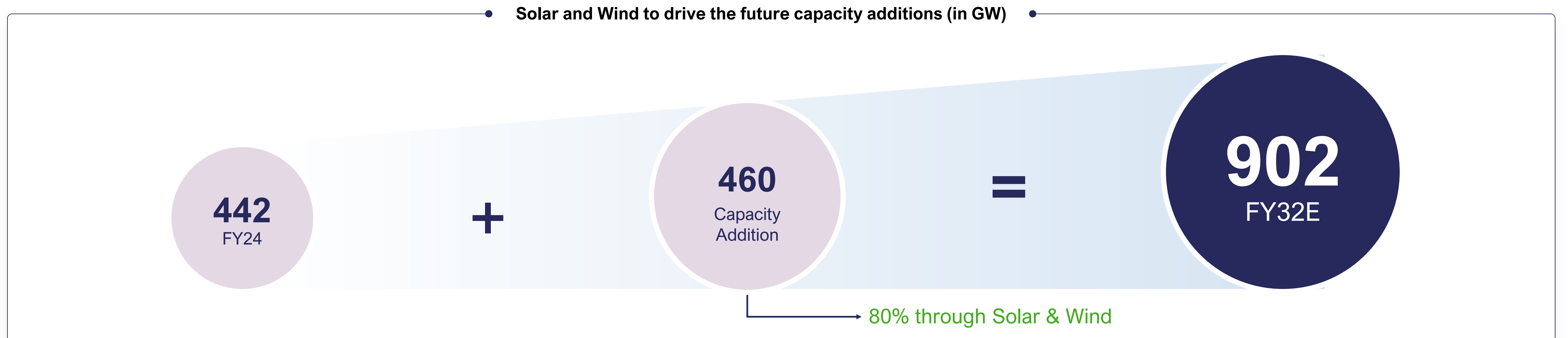
India is expected to witness notable surge in demand due to increase in economic activity, EV penetration and increasing digitalization (on account of set up of data centers, increase in AI usage etc.)

**RE + Storage**

RE coupled with storage solutions stands out as an effective approach to minimize this deficit without dependence on conventional power.

**Key RE Drivers**

Solar and wind with storage will be the major drivers of India's fast paced RE adoption to bridge demand supply gap



# Solar Energy

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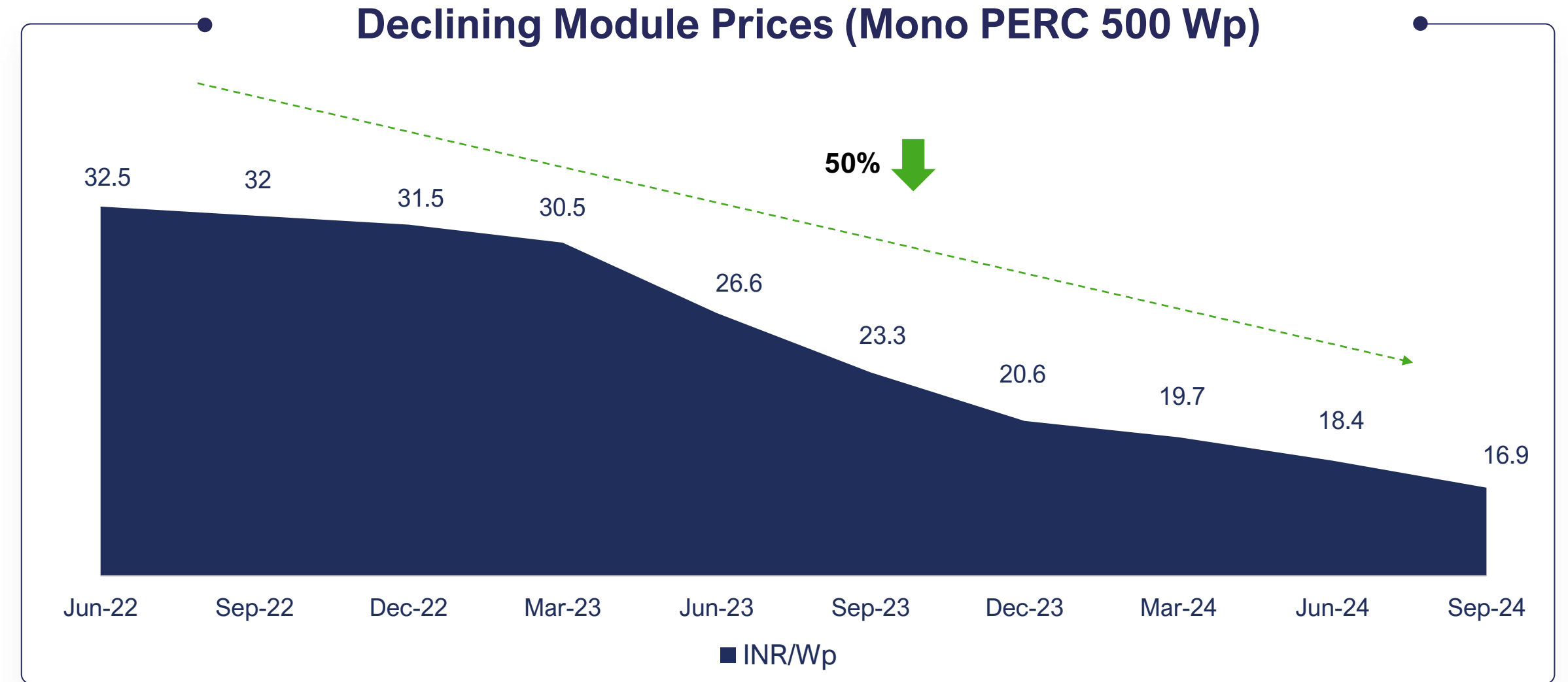
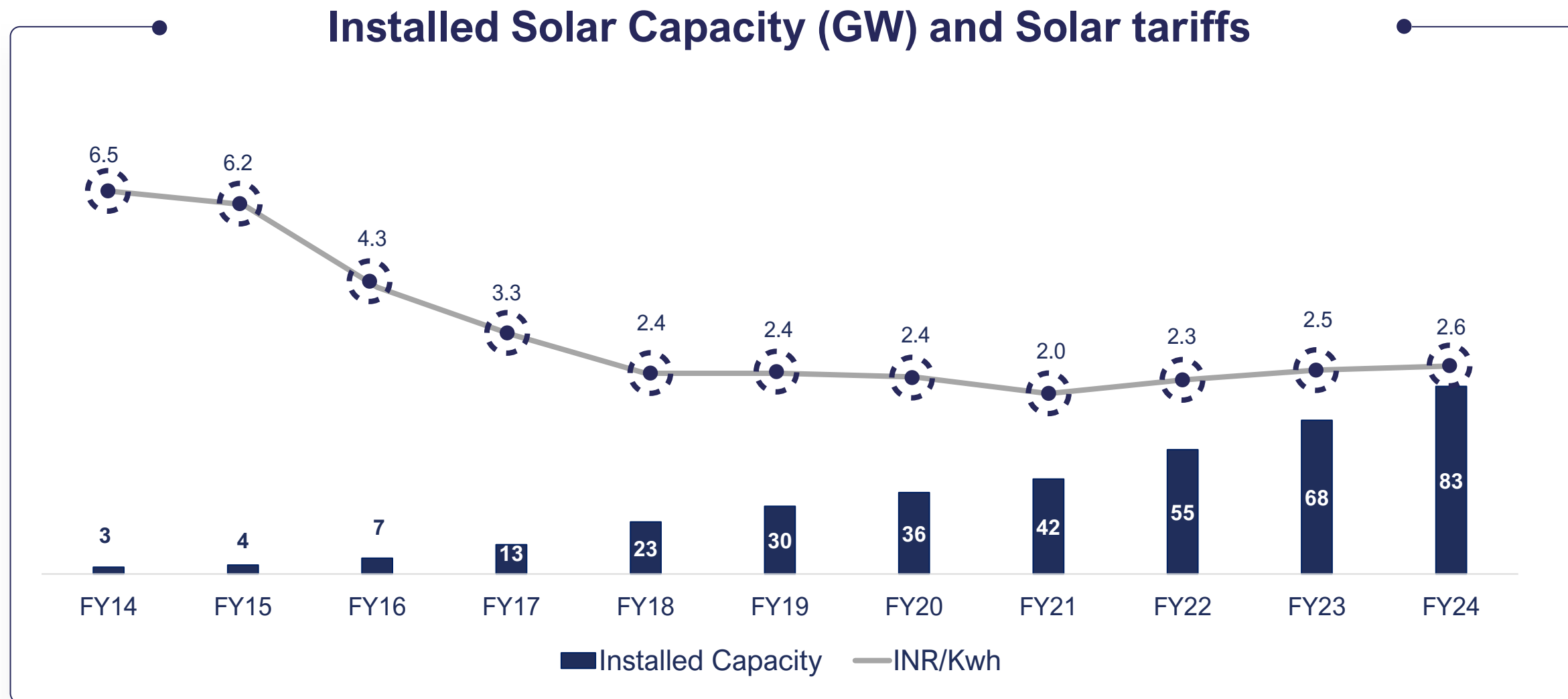
Current Landscape, Value Chain and Recent Awards





# Solar Power: Current Landscape and Future Growth

Declining input costs and tariff rates have made solar the preferred RE source



## Growth Drivers



**Low Capex, Opex and relatively simpler implementation**



**Declining Module Prices resulting in improved IRRs**



**Improved Efficiencies due to new technology (Bi-facial Top Con)**



**Incentives on Roof-top, KUSUM and promotion of domestic manufacturing through ALMM & PLI**

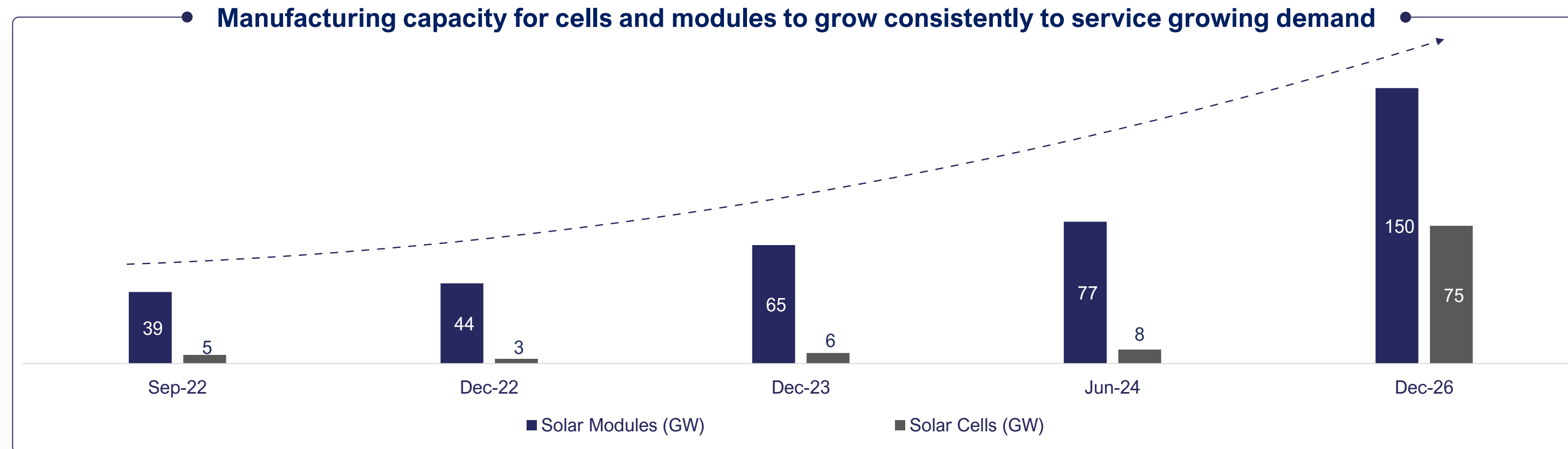
State	Tariff Range*	Average Tariff**	State	Tariff Range*	Average Tariff**
RJ	2.60 - 2.64	2.62	MP	2.14 - 3.90	2.75
MH	2.42 - 3.93	2.88	AS	3.90 - 3.92	3.91
GJ	2.20 - 2.89	2.52	UP	3.17 - 3.23	3.20

Low tariff due to favorable location, land availability & relatively strong off-takers

High Tariff due to lack of land availability and lower credit profiles of the off-takers

# Module and Cell Manufacturing at an Inflection Point

Manufacturing of solar cells and modules is the next growth avenue for Solar in India



## Cells & Module Manufacturing in the slow lane

- Chinese modules being cheaper vis-à-vis Indian modules (\$0.15 vs \$0.22 in FY'24)
- Cell manufacturing requires technical expertise and is a complex process
- Capital Intensive

## Capacity ramp-up going forward

- Schemes like ALMM and PLI support domestic mfg
- Reduced capex to set up production facilities due to favorable policy

Manufacturing in India



**Challenges**

Untested Quality

Increase in tariff

Lack of Standardization

Cheaper Chinese Modules



**Opportunities**

Reduced forex risk for importers

Faster domestic procurement

Employment Creation

Increase in exports

## Module Manufacturing Process



Polysilicon to Ingots

1



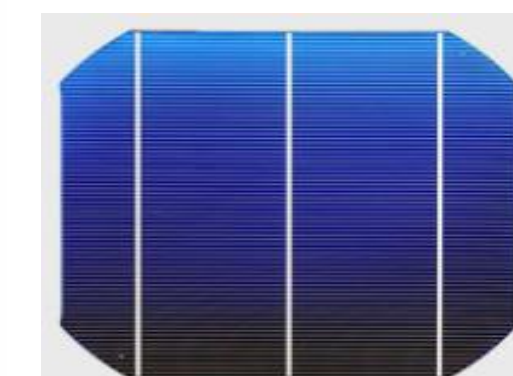
Ingots to Wafers

2



Wafer to Cells

3



Cells to Modules

4













































# Solar Value Chain (1/2)

Key Players across the Value chain spectrum

Cell Manufacturer								
Module Manufacturer								
Cables & Conductors, Transformers								
Inverters								












# Solar Value Chain (2/2)

Key Players across the Value chain spectrum

<p>EPC</p>	 	 	 	 	 	 	 	 
<p>Developers</p>	 	 	 	 	 	 	 	 
<p>REICs/DISCOMs</p>								
<p>InvITs</p>								

# Recent Contract Awards

Given the huge growth opportunity and the derisked operating model, solar bids are on an uptick

	FY25	FY25	FY25	FY25	FY25	FY25	FY24	FY24	FY24	FY24	
<b>Developer</b>	Rays Power Infra, SAEL Industries, Reflex Green, Renew, Mahindra Susten	Avaada, Essar, Susten, Rays Infra, Onward Solar	SAEL, NTPC Renewable, BluPine	Acme Solar, SAEL, Essar, Onward Solar, NTPC Renewable	KPI Green, Avaada, Solarkraft, NRCL, Hinduja Renewables	Apraava, Avaada, JSW, ReNew	Furies Solren, JSW Neo, Avaada	JSW Neo, Sunsure, UPC Renewables, NTPC	Avaada, Renew, Solairedirect, SAEL, NTPC	Furies, JSW, Avaada	Engie, NHPC, JSW Neo, SJVN, NTPC
<b>Offtaker</b>											
<b>Month</b>	Oct-24	Sep-24	Aug-24	Aug-24	Jun-24	Jun-24	Mar-24	Mar-24	Mar-24	Mar-24	Mar-24
<b>Capacity MW</b>	1,200	1,200	500	1,200	500	1,500	1,500	1,500	1,500	1,125	1,125
<b>Tariff (INR/ kWh)</b>	2.50-2.51	2.56-2.57	2.48-2.49	2.52-2.53	2.67-2.72	2.68-2.69	2.59-2.60	2.56-2.57	2.57-2.58	2.59-2.60	2.62-2.67

# Wind Energy

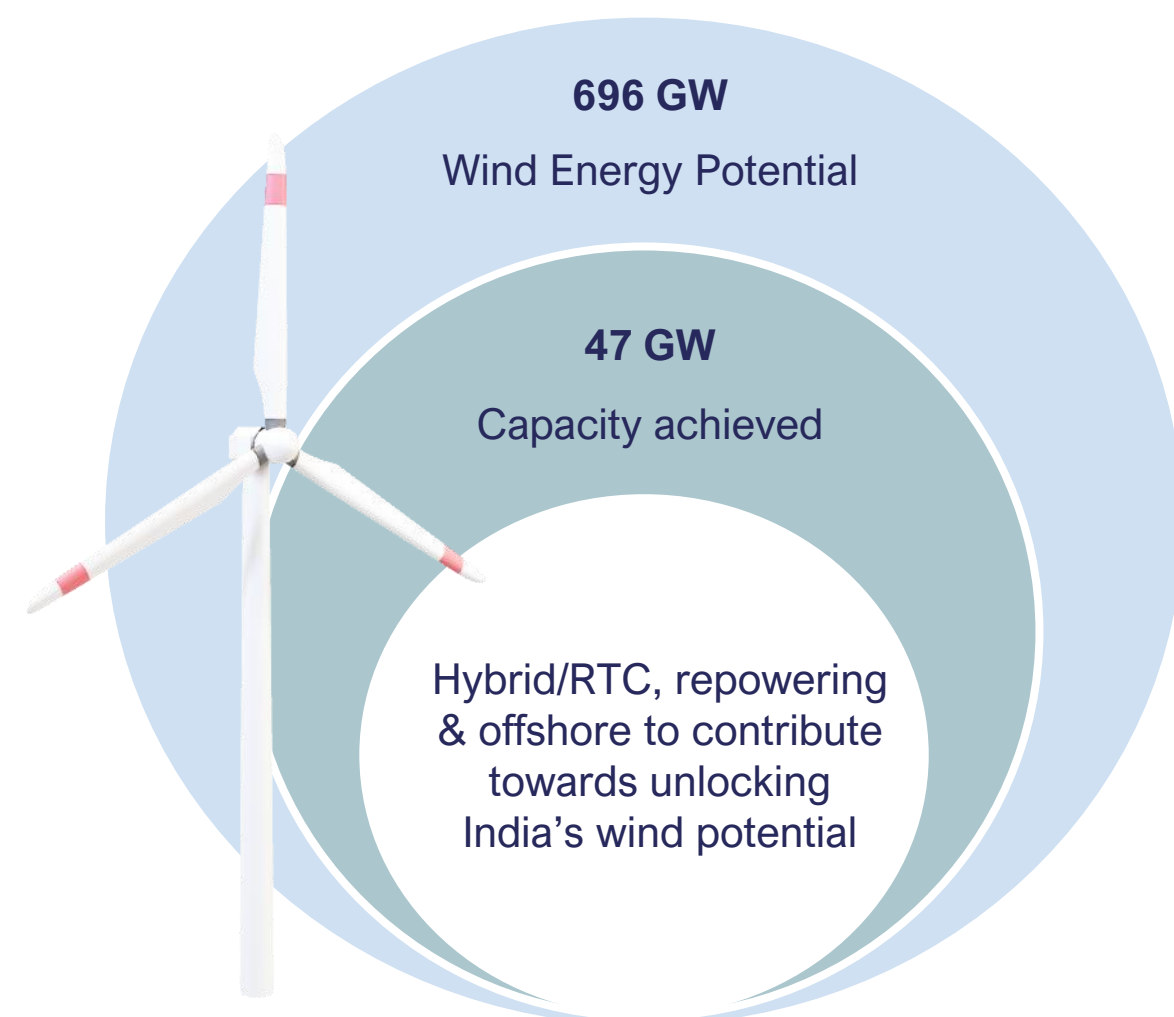
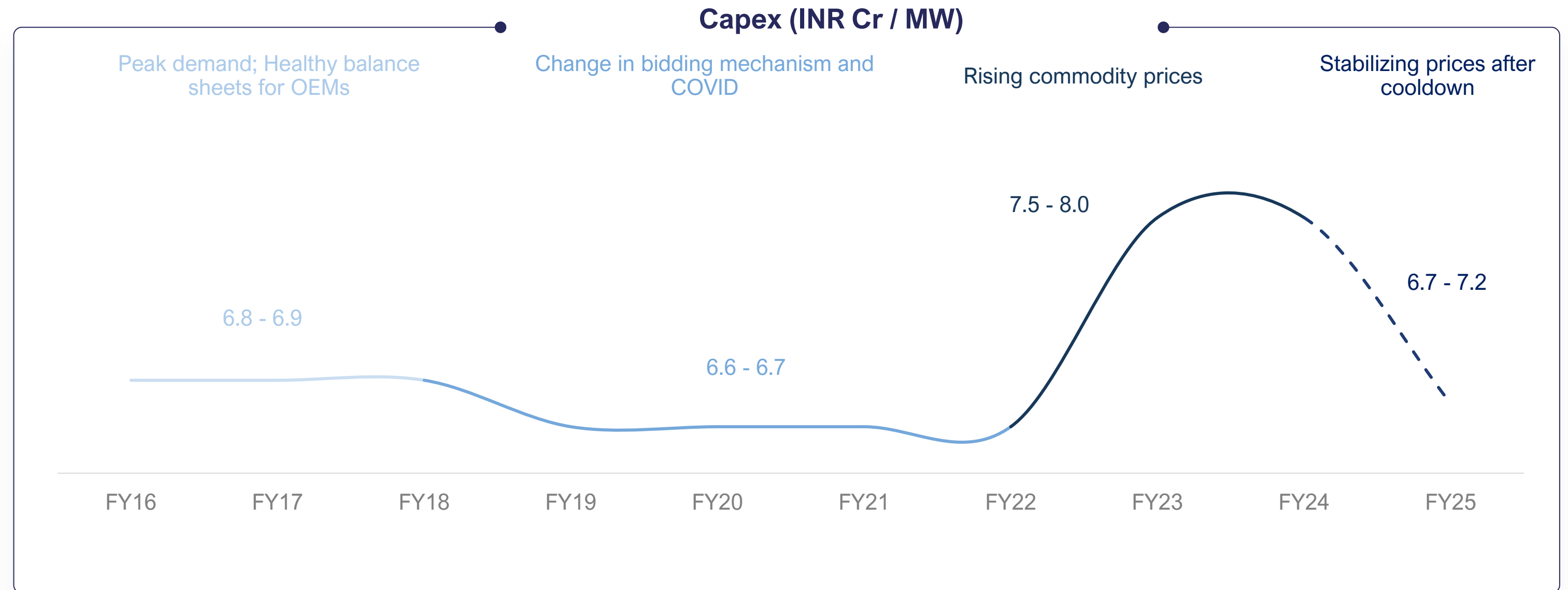
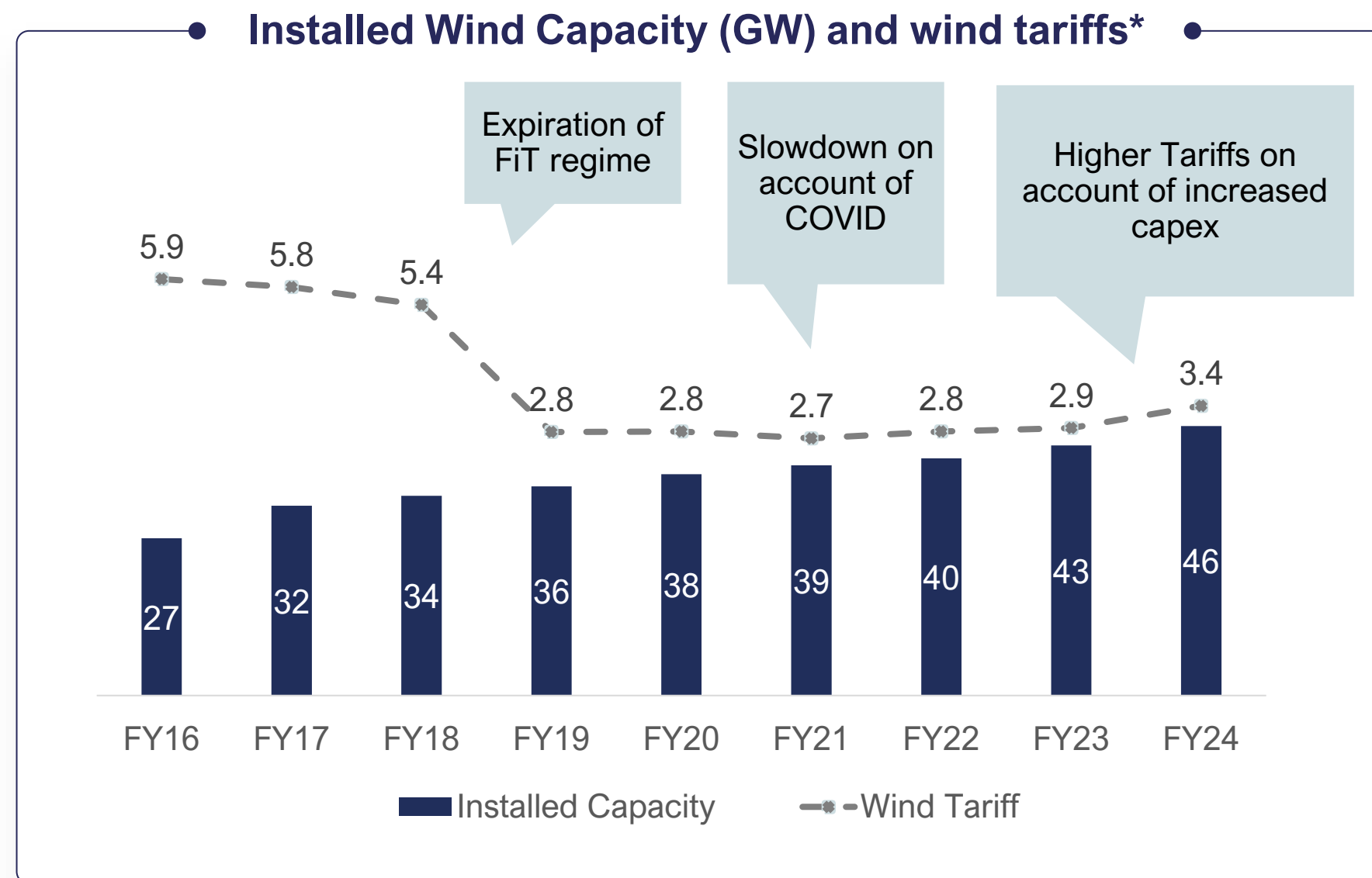
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Current Landscape, Value Chain and Recent Awards



# Wind Sector at a Glance

India's huge wind energy potential has led to a gradual but consistent increase in installed capacity



**Challenges**

- Land Availability
- Removal of FiT
- Higher Capex
- Opex & Wind speed variability

**Growth Opportunities**

- Higher Tendering Opportunities
- Improved Technology
- Tariff Rationalizing
- OEM's improving Financial Health

# Wind Value Chain (1/2)

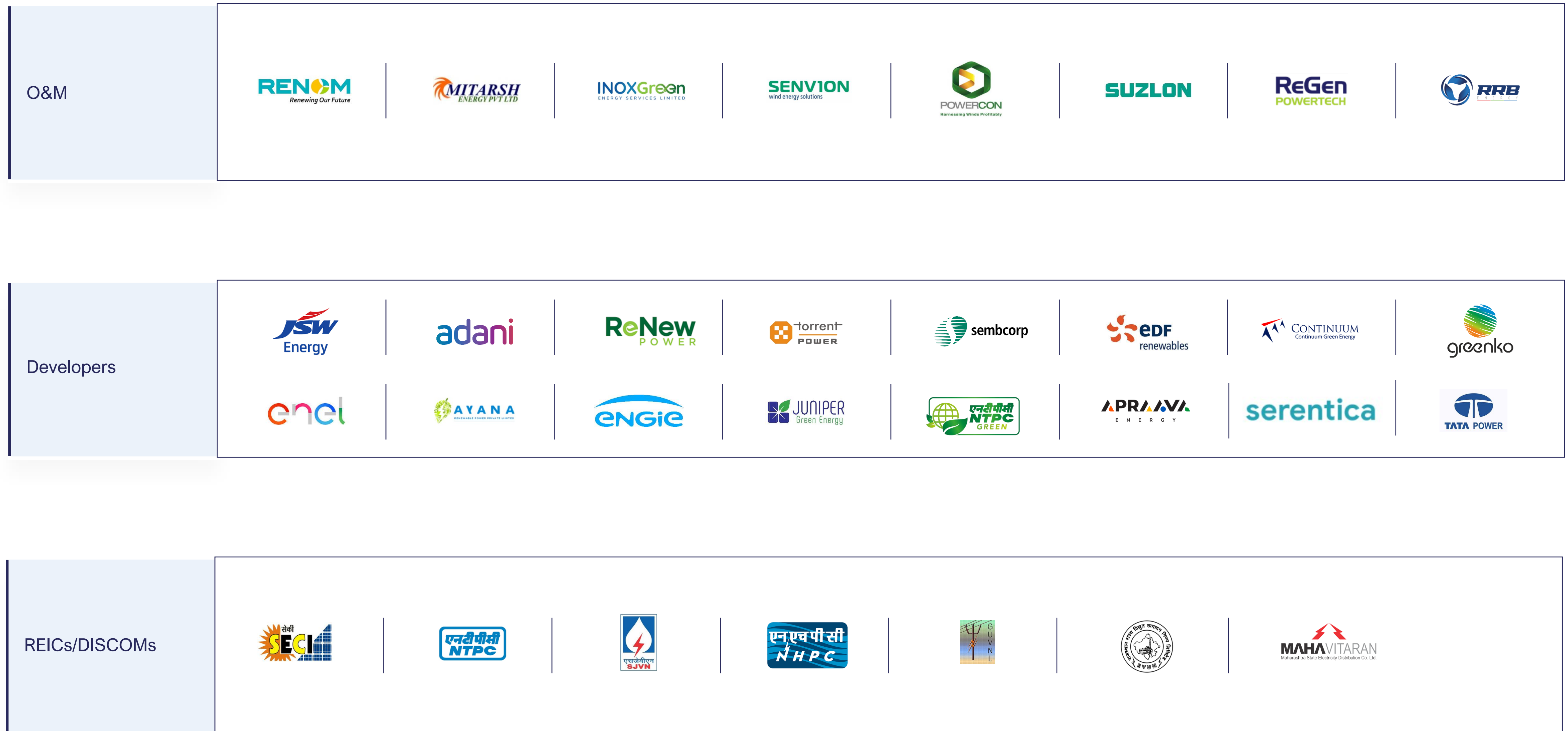
Key Players across the Value chain spectrum











# Wind Value Chain (2/2)

Key Players across the Value chain spectrum



# Recent Contract Awards

FY24 saw wind tariff rationalizing to INR 3.4-3.6/kwh, however, projects in FY25 are majorly being bid out on a Hybrid basis

	FY25	FY24	FY24	FY24	FY24	FY24	FY24	FY23	FY23	FY23	FY23
<b>Developer</b>	Powerica	JSW Energy	Juniper, EDF, Alfanar	SJVN, O2, Scatec	Avaada, Juniper	Apraava, SJVN, Green prairie	Juniper, Blupine, Evergreen	Juniper, Blupine, Acme, EDF	GSECL, EDF, Juniper, Ayana, Blupine, O2, Acme	NTPC, EDF, JSW, Torrent	Sembcorp
<b>Offtaker</b>											
<b>Month</b>	Oct-24	Feb-24	Jan-24	Dec-23	Nov-23	Jun-23	May-23	Jan-23	Jul-22	May-22	Apr-22
<b>Capacity MW</b>	50	500	164	600	100	690	240	300	500	1,100	50
<b>Tariff (INR/ kWh)</b>	3.81	3.6	3.42-3.45	2.9-2.95	3.58-3.59	3.18-3.24	3.11-3.17	2.91-3.01	2.84-3.27	2.89-2.94	3.11

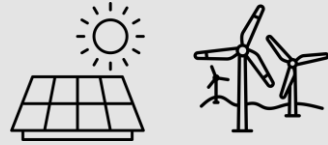










# Evolutions in RE

Innovation and technology to drive growth in RE



# Evolutions in the RE Space

Stimulus to the RE growth story, while addressing the inherent limitations

	 <b>Solar &amp; Wind</b>	 <b>Hybrid / FDRE / RTC / Storage</b>	<b>Bids Awarded (in GW)</b>			
			<b>Particulars</b>	<b>FY23</b>	<b>FY24</b>	<b>H1 FY25</b>
 Power Stability	Intermittent power generation	Consistent supply due to multiple sources		4.5	26	6
 Efficiency Factors	Lower CUFs	Higher CUFs			2.5	1.6
 Grid Load	Affected due to peak hours and varying demand	Improved grid stability and efficiency			2.4	15.8
 Location	Geographically dependent	Co-location advantage		<b>Hybrid Storage &amp; FDRE Projects have emerged as preferred mode of RE generation with a YoY increase in bid awards by 6x</b>		
 Availability	Available at respective cycles	Round the clock availability				
 Operational Risks	Individual projects easier to manage	Higher Coupling risks				

Hybrid Projects provide reliability and consistency, addressing the concerns in traditional RE Projects

# Evolving Themes in the RE space

Future Developments slated to transform India's RE landscape

The RE space is booming with investments from strategic, financial investors as well lenders making capacity ramp up the next step for RE players





# Key Players







Key Players in RE space across value chain



# Key Established Players in the IPP Space

Massive capex pipeline is resulting in rapid scaling up by existing as well as incoming players






Figures INR Cr

Companies	Description	Scale	FY	Revenue	EBITDA	Net Debt	Rating	Shareholding	Key/ Recent Highlights
	Present across all RE verticals with the largest operational capacity in the country. Plans to enter Green H2, BESS	11 GW	24	7,735	7,222	50,686	Ind AA-	Promoter: 51% Total Renewables: 20% QIA: 2.69%	Google partners with Adani for RE supply
	One of India's largest RE IPPs with presence in all RE verticals with plans to enter Green H2, BESS	10 GW	24	9,653	6,922	56,700	CARE A+	Promoters: 100%	Microsoft And ReNew enter into RE partnership In India
	Solar Power generator, with presence in module manufacturing and plans to enter Green H2 / NH3, and PSP	4 GW	23	1,546	1,413	-	IND A+	ADB, DEG, NDFC	Avaada Group recently made a commitment to invest INR 20,000 crs in Odisha
	Marquee developer with presence across 15 states. Market leader in PSP	8 GW	23	2,561	2,108	-	CARE A+	TPG, GIC, ADIA	Greenko Group co AM Green and SJVN ink 4,500 MW renewable energy supply contract
	Diverse portfolio of RE and conventional assets, with expansion plans in BESS, Green H2 & module manufacturing	8 GW	24	11,941	5,387	26,636	ICRA AA	Promoters: 69% Others: 31%	JSW Group to acquire 3 captive RE power assets (125 MW) from Hetero Group for INR 630 Cr
	India's largest integrated power utility; present in all RE verticals. Capex planned in GreenH2, BESS	6 GW	24	10,175	3,421	1,405	CRISIL AA+	Promoters: 100%	Tata Power signs 25-year deal to power Noida Airport with wind and solar energy

# Key Emerging Players in the IPP Space (1/2)

Massive capex pipeline is resulting in rapid scaling up by existing as well as new players

Figures INR Cr






Companies	Description	Scale	FY	Revenue	EBITDA	Net Debt	Rating	Shareholding	Key/ Recent Highlights
	Renewable energy platform focusing on C&I and utility projects	4 GW	23	142	83	-	CARE A-	CIP, AIB, Lightstone	Sumitomo, Ampin Energy Form Green JV
	Backed by marquee investors, O2 Power is a fast emerging RE platform focusing on Solar, Wind and RTC projects	4 GW	23	402	2	125	CARE A2+	EQT, Temasek	In the process of selling its assets worth USD 1bn
	Utility-scale renewable energy platform with wide portfolio comprising of solar, wind, RTC, and green hydrogen projects	1.6 GW	24	856	721	6,802	ICRA AA-	NIIF, BII, Green growth India fund	NTPC Green Energy and ONGC Green Energy's JV has tabled the highest bid of about USD 650 million to acquire Ayana
	IPP & operator of solar, wind & hybrid projects and experience in conceptualizing, building, & developing RE	930 MW	24	391	371	2,410	ICRA A+	Promoters	GUVNL Awards 200 MW Wind Power Projects to Jakson Green, Juniper Green Energy, And RIH Renewables In Gujarat
	Produces wind & solar power and develops grid-connected solar and wind parks along with C&I developments	2 GW	24	328	253	3,510	CARE A	Actis, Tata capital	BluPine commissioned a 120 MW solar plant in Gujarat



# Key Emerging Players in the IPP Space (2/2)

Massive capex pipeline is resulting in rapid scaling up by existing as well as new players






Figures INR Cr

Companies	Description	Scale	FY	Revenue	EBITDA	Net Debt	Rating	Shareholding	Key/ Recent Highlights
 A Member of the Shell Group	Founded in 2017, Sprng focuses on renewable energy, cleantech, and energy efficiency	2 GW	23	1,011	1,068	-	CARE AA+	Actis, Shell	Sprng Energy, AMPIN, Jupiter, ReNew, Avaada win NTPC's 1GW Hybrid Auction
	JV of the Hero Group established to manage wind, solar and hydro power plants	5 GW	24	1,462	1250	10,428	CRISIL A+	Promoters	Hero Future Energies plans to invest \$20 bn in renewables over 6 years
	IPP comprising of ground mounted solar plants; entering the wind and hybrid space	125 MW	24	254	234	2,727	CRISIL AA-	Promoters- 100%	KPI green, Avaada, Blupine, NRC and Hinduja win GUVNL's 500 MW Solar Auction
	Italian major, headquartered in Rome. In India, it has 5 operating plants with an installed capacity of 760 MW	760 MW	23	266	251	-	-	Promoters- 100%	Enel picks HSBC to sell India green portfolio
 Leading Through Innovation	Decade old IPP focused on developing and maintaining solar projects	1 GW	24	1,372	1,114	8,421	CRISIL A1	Promoter- 100%	ACME Sun Power secures INR 3,753-cr term loan from state-owned REC for development and construction of a 320-MW FDRE

# Key Players in the EPC Space (1/2)

Massive capex pipeline is resulting in rapid scaling up by existing as well as new players






Figures INR Cr

Companies	Description	Scale	FY	Revenue	EBITDA	Net Debt	Rating	Shareholding	Key/ Recent Highlights
 JAKSON	Engaged in Solar EPC, substation & transmission projects & authorized supplier of Cummins gensets	5+ GWp	24	4,946	310	303	CRISIL AA-	Promoters: 100%	Jakson Group plans to raise USD 476 mn for RE capacity expansion
 Oriano <small>Your Clean Energy Partner</small>	Engaged in turnkey solar EPC for utility-scale solar power plants, solar kits, solar farms and rooftops.	729 MW	24	337	32	12	CRISIL BBB	Promoters: 100%	Oriano Solar wins EPC order for 184 MWp PV projects in MP
 TATA PROJECTS	Engaged in providing EPC services for setting up power generation plants	-	24	17,760	-923	5,213	IND AA	Promoters: 100%	Recently bagged projects to evacuate power for green hydrogen projects
 GENSOL	Solar designing and engineering, solar advisory, solar EPC and O&M	750+ MWp	24	963	260	1,397	CARE BB+	Promoters: 63% Others: 37%	Gensol Engineering wins INR 600 crore EPC contract for 116 MW solar projects in Gujarat
 susten <small>BY mahindra</small>	Engaged in manufacturing solar power products and EPC services.	3 GW	24	195	101	-	IND A+	Promoters: 70% OTPP: 30%	Recently formed InvIT SEIT with ~1.5 GW of solar projects

# Key Players in the EPC Space (2/2)

Massive capex pipeline is resulting in rapid scaling up by existing as well as new players






Figures INR Cr

Companies	Description	Scale	FY	Revenue	EBITDA	Net Debt	Rating	Shareholding	Key/ Recent Highlights
	Leading RE solutions provider, and is emerging as the 'foremost flag-bearer' of the green energy sector	15 GW	24	6,497	1,029	-	CRISIL A-	TPG	Recently bagged 1,166 MW wind energy order from NTPC Green Energy
	Operates and maintains high quality WTG	5 GW	24	3,780	327	1,418	-	Promoter- 100%	Secured 130 MW order in India with Vibrant Energy
	Key player focusing on the generation and sale of wind energy and providing EPC services to wind farms	3 GW	24	1,746	324	205	CRISIL A	Promoters- 48% Others- 52%	Inox Wind receives LoI from IGREL Renewables for 550 MW wind project
	Provides offshore and onshore wind turbine solutions and O&M, asset optimisation & repair services	-	23	6,077	-1,146	2,543	-	Promoters	Siemens Energy plans to sell Indian wind business at \$1bn valuation
	India's 5 <sup>th</sup> Largest wind turbine manufacturer	-	24	77	20	74	-	Alfanar	Senvion India plans to double its manufacturing capacity by FY26 and invest INR 840 Cr in R&D

# Key Players in the OEM Space (1/2)

Massive capex pipeline is resulting in rapid scaling up by existing as well as new players

Figures INR Cr






Companies	Description	Scale	FY	Revenue	EBITDA	Net Debt	Rating	Shareholding	Key/ Recent Highlights
	Products include solar PV modules, lanterns, street lighting systems, water pumps, home light systems, power plants	6 GW	23	1,444	113	733	CRISIL BBB+	Promoter: 97% Other: 3%	Recently bagged orders worth INR 560 Crores from two IPPs for Solar Modules and Cells
	Provides complete turnkey solutions from design to life-cycle asset management	15 GW	24	6,497	1,029	-	CRISIL A-	Promoter: 13.27% Public: 86.73%	Recently bagged India's Largest wind energy order of 1,166 MW wind energy from NTPC Green
	Manufactures PV modules, inverters, water pumps, solar- thermal, garden light, study lamp and inverters	444 MW	24	10,717	1,614	276	CARE A	Promoters: 71% Others: 29%	Waaree Energies recently crossed the INR 1 lakh crore Market cap mark post its listing
	Manufacturer of solar PV module also offering lighting systems, power packs, solar EPC solutions, design, install and commissioning of solar projects	4 GW	24	2,511	399	809	ACUITE A-	Promoter: 76% Others: 24%	Vikram Solar recently filed its DRHP for an IPO worth INR 1,500 Cr
	Focuses on the generation and sale of wind energy and provides EPC services to wind farms	376 MW	24	1,746	324	205	CRISIL A	Promoter: 48% Public: 51%	iShares Global Clean Energy Buys stake worth INR 1,517 Crore via Bulk Deal

As on Apr'24, Envision had a 40% share in the Wind OEM space. However, the same is not included above due to limited data availability

# Key Players in the OEM Space (2/2)

Massive capex pipeline is resulting in rapid scaling up by existing as well as new players

Figures INR Cr

Companies	Description	Scale	FY	Revenue	EBITDA	Net Debt	Rating	Shareholding	Key/ Recent Highlights
	Solar PV manufacturing arm of Adani Group,	6 GW	24	7,735	7,222	50,686	Ind AA-	Promoter: 51% Total Renewables: 20% QIA: 2.69%	Adani wins bid to supply 6,600 MW of electricity at INR 4.08/unit tariff
	2 decades of experience in Operating & maintaining WTG having installed ~1700 Wind turbines across 7 states	5 GW	24	3,780	327	1,418	-	Promoters	Vestas Secures 130 MW Wind Turbine Order from Vibrant Energy in India
	Engaged in manufacturing & trading of PV modules & EPC. Product range also includes solar water pumping system - surface & submersible	3 GW	24	1,756	126	320	CARE BBB-	Promoters: 100%	Goldi Solar plans to go public to fund INR 2,700-crore expansion
	Manufactures rooftop, ground mounted solar PV modules, polycrystalline, mono crystalline modules, etc and also offers EPC services	NA	23	621	27	145	CRISIL BBB	NA	Saatvik Green Energy bags INR 302 crore order from MAHAGENCO for 200 MW solar module supply
	Manufacturing of International electrotechnical commissioned solar module components	3 GW	23	1,791	122	318	ICRA A	Promoters: 100%	Plans INR 6000 Cr investment in Telangana

# Funding Dynamics

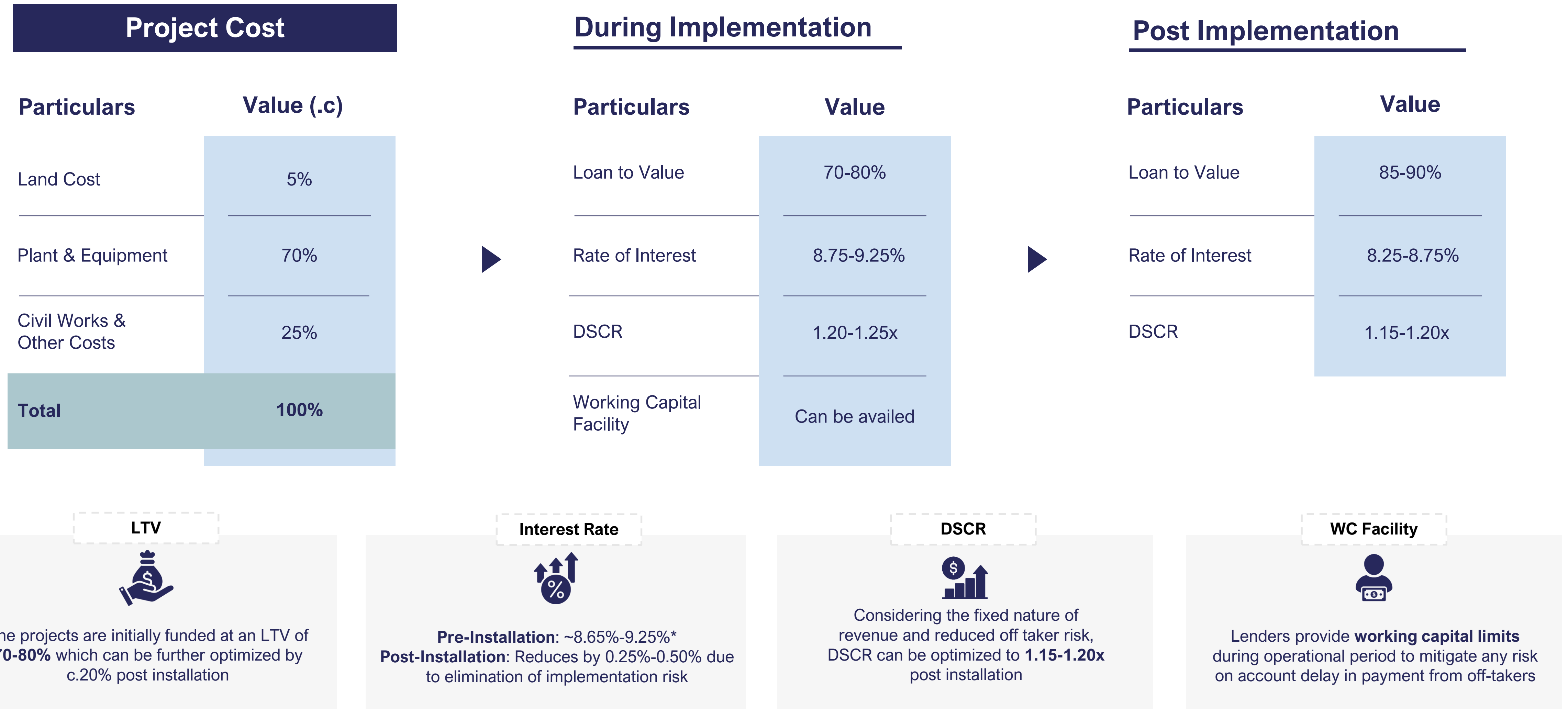
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Funding landscape of RE space



# Funding Dynamics

Well established funding landscape owing to operational history of RE projects and the sector's growth potential



\* At current MCLR

# Marquee Investors & Deals

Strong Investor Interest driving pace of dealmaking  
across the globe





# Global Investors

RE attracts a range of high-quality investors including DFIs, SWFs and PE Funds

## Private Equity, SWFs and Pension Funds



## DFIs











## Strategics


























# Marquee Domestic RE Deals

Significant capital infusion has happened in recent years owing to the robust pipeline

	Sep'24	Aug'24	Aug'24	Aug'24	Jul'24	May'24	Apr'24	Apr'24
<b>Target</b>								
<b>Deal Size</b>	300	1,245	2,280	400	1,660	292	5,000	132
<b>Investors</b>	Multiple (incl Madhu Kela and Akash Bhansali)		  				Multiple Investors	
<b>Remarks</b>	Aims an installed RE capacity of 2 GW by FY27	Displace coal power generation through deployment of RE	Aims to reach 3.5 GW of RE assets by FY26	Targets to achieve 32+ GW wind assets	Targets to achieve 3+ GW capacity over 5 years	Implement projects in C&I space	QIP to repay debt and accelerate growth plans	Acquisition of 45 MW assets
<b>Growth Capex</b>								















# Marquee Domestic RE Deals

Significant capital infusion has happened in recent years owing to the robust pipeline

	Mar'24	Jan'24	Jan'24	Dec'23	Aug'23	Aug'23	Jun'23	Apr'23
<b>Target</b>								
<b>Deal Size</b>	1,700	1,650	486	300	3,930	350	1,930	2,988
<b>Investors</b>				  				
<b>Remarks</b>	Acquisition of 369 MW assets	Acquisition of 300 MW assets	Anchor Investor for India's largest RE InvIT	QIP Fundraise	Acquisition of 2.7% stake	Second round of equity infusion by Norfund	Growth capital for green H2, NH3 and solar manufacturing	Acquisition of 51% with a minority primary infusion
<b>Growth Capex</b>								

# Marquee Global RE Deals

Significant capital infusion has happened in recent years owing to the robust pipeline

	Oct'24	Sep'24	Jun'24	Dec'23	Dec'23	Nov'23	Oct'23	Aug'23
<b>Target</b>								
<b>Deal Size</b>	\$745 Mn	€56 Mn	€3.2 Bn	\$1.2 Bn	€8 Mn	\$1.75 Bn	\$646 Mn	\$2.8 Bn
<b>Investors</b>		Multiple			Multiple			
<b>Remarks</b>	Eversource sold 50% stake in South Fork Wind & Revolution Wind to GIP	Series A funding for its power plants	Largest ever energy deal on Athens Stock Exchange	Growth cap to expand RE portfolio	Series A funding to expand Votfang product range	Acquisition of 44% stake in South Texas plant	Acquisition of operating projects in Brazil	Focus on transitioning into a sustainable energy supplier
<b>Growth Capex</b>		✓		✓	✓		✓	✓

# Case Study

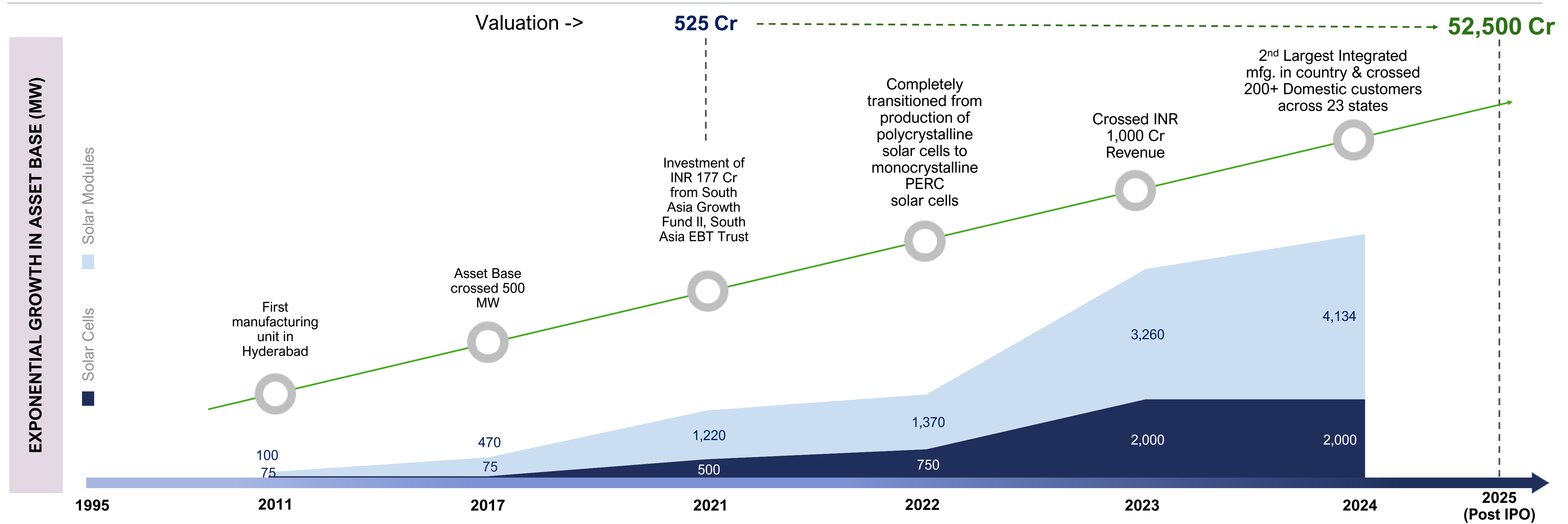
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Success Stories & Return Analysis



# Case Study 1- Premier Energies Limited

An integrated solar cell and solar module manufacturer with experience of 3 decades



## Reasons for outperformance

  
Incorporated in 1995

Company's backward integration helped it gain access to the market for DCR modules.

High entry barriers like huge capital, technical expertise and long lead times to establish a manufacturing line limited competition

Expanding overseas presence and increasing exports, especially in the U.S

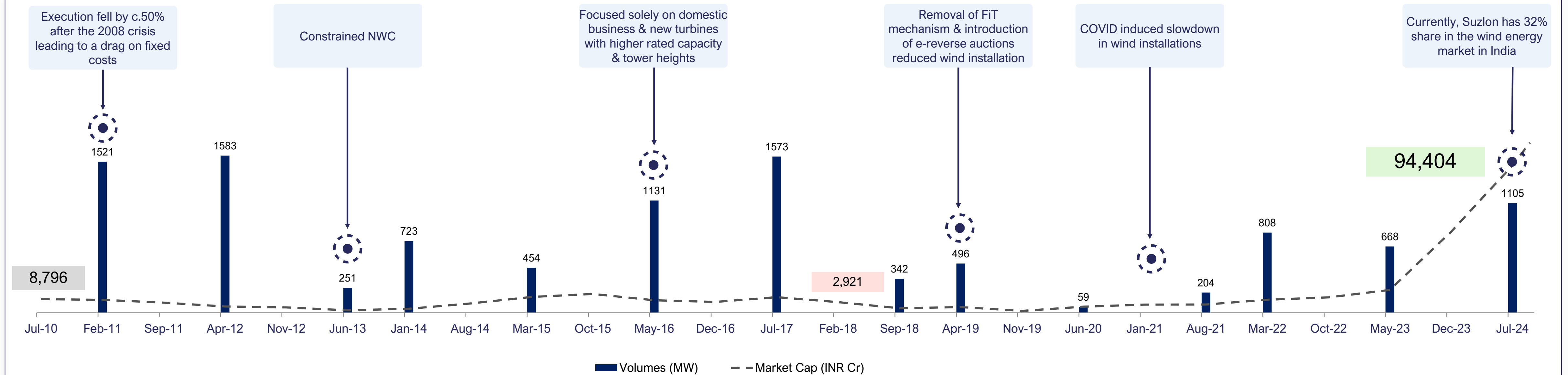
Develop and grow rooftop solar offerings

Expanding and upgrading manufacturing capacities using the latest technology

# Case Study 2- Suzlon Energy

Suzlon Energy became a turnaround story by its resilient journey to profitability in India's challenging wind energy landscape

## Exponential growth in market cap of Suzlon due to favorable industry tailwinds



## Suzlon navigated debt hurdles to capture a huge share in the Wind OEM market

**FY 10-12**

Partial stake sale in Hansen for INR 17 Bn along with rights issue of INR 12 Bn helped reduce debt

**FY 13-15**

After default on FCCBs, it underwent a Debt Restructuring Programme in which it availed moratorium, enhanced WC loans and converted INR 1,500 Cr of debt into equity

**FY 15-17**

Sold Servion for a consideration of INR 7,200 Cr and raised INR 1,800 Cr from Mr. Dilip Shanghvi. Also Converted debt of ~INR 2,300 Cr into equity

**FY 18-23**

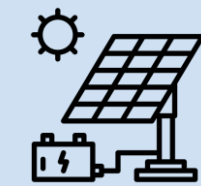
Suzlon defaulted on the last tranche of FCCBs in Jun'19 and proposed conversion of debt into equity of all lenders and FCCB holders

**FY 23-25**

Suzlon defaulted on the last tranche of FCCBs in Jun'19 and proposed conversion of debt into equity of all lenders and FCCB holders

# Sensitivity analysis of RE Projects

IRRs and their sensitivity for a proposed 140 MW (DC) Solar Project & 100 MW (DC) Wind Project



## Assumptions for Solar Project

### Particulars

### Details

Capacity

140 MW

PLF

19%

Tariff

INR 2.5/unit

D/E

75:25

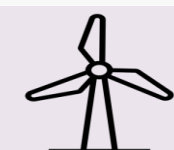
ROI

9%



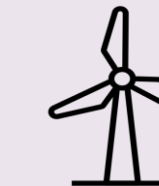
## Sensitivity Analysis for Solar Project

Module Cost (\$ Cents/Wp)	Tariff (INR/unit)	IRR (%)
19	2.5	26.6%
20	2.5	21.4%
21	2.5	17.0%
22	2.5	13.3%
23	2.5	10.3%
24	2.5	7.7%
25	2.5	5.6%



## Sensitivity Analysis for Wind Project

Capex (INR Cr/MW)	Tariff (INR/unit)	IRR (%)
6.6	3.4	20.76%
6.8	3.4	18.25%
7.0	3.4	16.0%
7.2	3.4	14.0%
7.4	3.4	12.2%
7.6	3.4	10.6%
7.8	3.4	9.1%



## Assumptions for Wind Project

### Particulars

### Details

Capacity

100 MW

PLF

32%

Tariff

INR 3.4/unit

D/E

75:25

ROI

9.5%



About  
**AVENER**



# Investment Banking | Infrastructure And Real Assets

Leading financial advisors in the Infrastructure and Real Assets space in India

## Renowned Experts in Indian Infrastructure and Real Assets Space

 <p><b>70+</b> Platform, Equity, M&amp;A and Debt Transaction closures by the team till date</p>	 <p><b>\$ 15 Bn+</b> Total fund raising by the team till date</p>	 <p><b>25+</b> Among the largest teams in the country dedicated towards the Infra space</p>	 <p><b>Policy Formulation</b> Part of committees of various regulatory bodies</p>
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## Transaction Footprint in FY24

<p><b>18</b> Total Deals</p> <p><b>\$ 4.6 bn</b> Total Deal Value</p>	<p><b>06</b> <b>M&amp;A/ Private Equity</b> Value: \$ 1.3 Bn</p>	<p><b>04</b> <b>Project Finance</b> Value: \$ 1.4 Bn</p>	<p><b>08</b> <b>Refinancing/ Structured Debt</b> Value: \$ 1.9 Bn</p>
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## Accolades:

-  Ranked 5<sup>th</sup> in M&A & 7<sup>th</sup> in PE in YTD24
-  Ranked 8<sup>th</sup> in PE in 2021 & 2019
-  Ranked among the Top 10 advisors for Asia & Australia by Finance Asia in 2023
-  Ranked among the Top 25 bookrunners in Asia by Thomson Reuters in 2019

## Sectors Covered – Core Infrastructure and Allied Sectors

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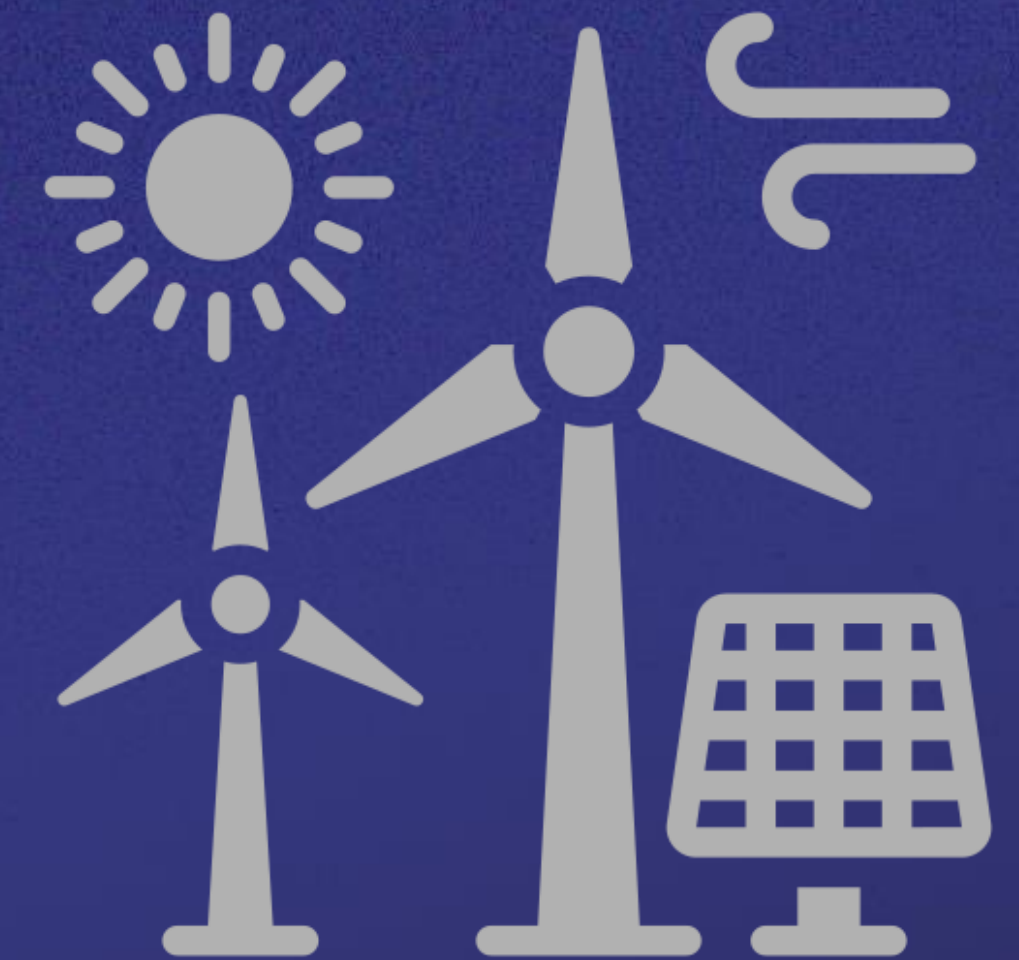
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