

Solar PV leader embarking to the next level; initiate with BUY

Others ▶ Initiating Coverage ▶ December 07, 2025

CMP (Rs): 2,871 | TP (Rs): 4,260

We initiate coverage on Waaree Energies with BUY and Mar-27E TP of Rs4,260 (48% upside), valuing the core PV business at 14x Mar-28E EV/EBITDA. India's solar manufacturing development has been supported by favorable regulations like ALMM, BCD, and DCR and, despite the module overcapacity now, integration of cell and wafer-ingots as well as the upcoming ALMMs on them should support first movers like Waaree, driving their competitiveness. The profit pool will shift from module to cell and to wafer-ingot, but book margins and returns are likely to stay protected. FY25-28E revenue/EBITDA/APAT CAGR is 36%/48%/40%, on the back of major integrated expansions in FY26-27 leading to 33% module volume CAGR and a largely stable EBITDAM at 23-24%. Waaree is further diversifying into BESS, transformers, inverters, and electrolyzers, besides its already established EPC and O&M presence – this allows it a higher wallet share with customers. We build in BESS capex for 3.5GWh albeit no earnings in FY28E, valuing it at 1x EV/invested capital of Rs20.7bn.

ALMMs to protect integrated players; Waaree's order book secured for 2-3 years

Installed solar power capacity CAGR in India is expected at ~30GWac on average in FY26-28E, given GoI target of ~300GWac by CY30 (200GW by end-FY28E vs 106GW at end-FY25). This implies module-cell demand of >45GWdc pa on average, at 1.4x loading. India's module capacity surpassed 70GW in FY25; it is expected to reach ~200GW by FY28. However, with ALMM II (cell) and the consequent DCR requirement, installed cell capacity would be crucial; per our industry checks, cell capacity would be at 40/60/80GW as of end-FY26/27/28. Annual capacity utilization of 85% implies ~50GW of domestic cell production, albeit difficult to achieve at the industry level. Waaree's core order-book, estimated at ~Rs440bn (at end-Q2FY26), provides secured revenue till mid-FY28E, even after building in the rapid growth. Beyond FY28, the proposed ALMM-III (wafer-ingot) should set in, with FY30 capacity likely at ~60GW, thus protecting integrated players.

Integration to support business margins; major capacity expansion underway

Waaree is expanding its module capacity from 18.7GWpa as of end-Q2 to 26.7GW by end-FY26, cell capacity from 5.4GW to 15.4GW by end-FY27, and setting up new wafer-ingot capacity of 10GW by end-FY27, at total capex of Rs118bn. 6GW of integrated capacity is under the PLI scheme. While module-cell integration is likely to expand margin by ~3% (all things remaining the same), wafer-ingot could add another 1-2% (in our view), not adjusting the capacity utilization difference, which provides further upside. Cell ALMM wef Jun-26 would also increase DCR share, wherein margin is 5-6% higher than Waaree's blended rate. The mgmt has given guidance for 22-24% sustainable EBITDAM, which we believe is reasonable even after keeping some cushion from the rising domestic capacities and the near-term US-based uncertainties.

We initiate coverage on Waaree with BUY and TP of Rs4,260

Our TP estimate is basis SOTP valuation, with core target EV/EBITDA of 14x FY28E and BESS at 1.0x EV/invested capital. Key risks: competitive, technology, policy, commodity.

Target Price – 12M	Mar-27
Change in TP (%)	NA
Current Reco.	BUY
Previous Reco.	NA
Upside/(Downside) (%)	48.4

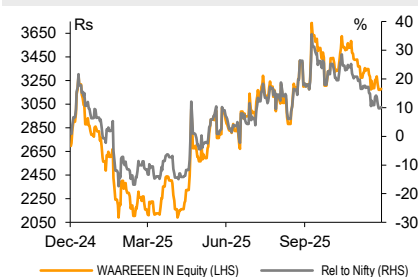
Stock Data	WAAREEN IN
52-week High (Rs)	3,865
52-week Low (Rs)	1,809
Shares outstanding (mn)	287.6
Market-cap (Rs bn)	826
Market-cap (USD mn)	9,178
Net-debt, FY26E (Rs mn)	(73,431.3)
ADTV-3M (mn shares)	2.4
ADTV-3M (Rs mn)	6,181.6
ADTV-3M (USD mn)	68.7
Free float (%)	33.2
Nifty-50	26,186.4
INR/USD	90.0

Shareholding, Sep-25

Promoters (%)	64.2
FPIs/MFs (%)	6.3/2.8

Price Performance

(%)	1M	3M	12M
Absolute	(14.8)	(10.8)	1.1
Rel. to Nifty	(16.7)	(15.7)	(4.6)

1-Year share price trend (Rs)**Waaree Energies: Financial Snapshot (Consolidated)**

Y/E March (Rs mn)	FY24	FY25	FY26E	FY27E	FY28E
Revenue	113,976	144,445	254,210	319,283	367,268
EBITDA	15,744	27,216	58,468	72,848	88,131
Adj. PAT	9,863	18,704	37,800	44,329	50,808
Adj. EPS (Rs)	34.0	64.5	130.4	152.9	175.2
EBITDA margin (%)	13.8	18.8	23.0	22.8	24.0
EBITDA growth (%)	88.6	72.9	114.8	24.6	21.0
Adj. EPS growth (%)	98.1	89.6	102.1	17.3	14.6
RoE (%)	41.8	27.5	33.3	28.8	25.2
RoIC (%)	613.6	201.8	169.6	103.4	53.2
P/E (x)	66.6	45.7	21.9	18.8	16.4
EV/EBITDA (x)	50.1	28.9	12.9	10.9	8.3
P/B (x)	20.4	8.8	6.3	4.7	3.7
FCFF yield (%)	1.2	(0.1)	0.6	(4.0)	7.5

Source: Company, Emkay Research

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This report is intended for Team White Marque Solutions (team.emkay@whitemarquesolutions)

Outlook, Financials, and Valuation

Our positive stance on Waaree Energies (Waaree) stems from its scale and leadership position, geographical presence, and first-mover advantage. Waaree is currently the largest solar PV module and cell manufacturer in India, with nameplate capacity of 16.1GW and 5.4GW, respectively. Its module shipment market share stood at ~14% in FY25, per industry reports, while current (end-Q2FY26) capacity share is ~12% in modules and ~20% in cells. Four of Waaree's plants, including its largest unit (Chikhli) with >12GW capacity is strategically located in Gujarat, which gives access to high solar irradiation states in western India (leaders in solar capacity). It has a 1.3GW facility in Noida, also through the NCLT acquisition of Indosolar.

Exhibit 1: Waaree's existing capacity is 18.7GW of modules and 5.4GW of cells

Solar PV (MW)	Modules	Cells
Existing capacity	18,650	5,400
Legacy plants + Indosolar	3,640	
Chikhli unit	12,410	5,400
US (incl Meyer Burger)	2,600	

Source: Company, Emkay Research

Waaree has a 1.6GW plant in Texas, US, while a recent acquisition (Meyer Burger in Arizona) added another 1GW; this leads to total capacity of 2.6GW, which should support its business in the US, amid trade-related uncertainties. Going ahead, Waaree is setting up 10GW of wafer-ingot capacity near Nagpur in Maharashtra. It is one of the early players to scale up capacity, move to new technology, and integrate upstream. We estimate a core module order book of ~Rs440bn or ~21GW as of Q2FY26-end. 64% of this is overseas which is likely to be executed in 3-3.5 years; the remaining 36% is domestic and is likely to be executed in 2 years. Hence, there is revenue visibility till H1FY28, while from FY29, the sector would move upstream to wafer-ingots as ALMM-III sets in – Waaree is adding sizable capacities here too.

Exhibit 2: Two years of secured revenue for Waaree, based on current order book

Consolidated	Rs bn	GW
Reported Order Book at end-Q2	470	24.0
WRT Order Book (estimated)	32	3.5
Waaree's Core Order Book	439	20.5
India	159	
Overseas	280	
H2FY26-H1FY28 cumulative adj revenue	441	PV revenue, ex retail
Secured revenue tenure (no of years)	2.0	Including growth assumptions

Source: Company, Emkay Research; WRT is Waaree Renewable Technology, the EPC arm

Module overcapacity sets in, though move to cells and wafer-ingot more crucial; market to consolidate

Exhibit 3: Indian module is likely to see overcapacity, though cell and wafer-ingot production should be largely stable over the next 5 years

(GW)	FY22	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY29E	FY30E
Installed Solar Power Capacity in AC	54	67	82	106	132	162	200	243	290
Addition in AC	14	13	15	24	26	30	38	43	47
Addition in DC	20	18	21	34	36	42	53	60	66
Cell Manufacturing Capacity (DC)	3	7	9	25	40	60	80	85	90
Assumed Plant Utilization	85%	85%	85%	85%	85%	85%	85%	85%	85%
Cell Production (DC)	3	6	8	21	34	51	68	72	77
Module Capacity (DC)	18	38	60	74	150	175	200	210	220
Wafer-Ingot Capacity (DC)				2	5	15	25	40	60
Polysilicon Capacity (DC)						5	10	15	20

Source: Company, Industry, Emkay Research

India's solar module capacity has crossed 100GW (ALMM-I alone), with another 100GW being announced, implying such capacity would reach 170-200GW during FY27-28. This points to an overcapacity scenario in modules. However, with ALMM-II (cells) set to be implemented from Jun-26, pure module capacity would become irrelevant and the market would be driven by cell demand and supply. Currently, cell capacity is >27GW, while addition of >100GW has been announced in cell capacity also. However, cell manufacturing is more capital-intensive and complex with strict quality parameters; hence, per our industry checks, the actual upcoming capacity is likely to be lower.

We therefore build in 40/60/80GW of domestic cell capacity as of end-FY26E/27E/28E. Further, technically, cell plant utilization can reach up to 85-90%; but given the complexities and stabilization challenges, actual capacity utilization (CU) is likely to be much lower, and our capacity estimates are for the year-end vs demand being average for the year. At 70% plant utilization, cell production would be in line with implied cell demand domestically. Wafer-ingot capacities that will become relevant from FY29 (as ALMM-III is proposed to be implemented from Jun-28) could be 40/60GW in FY29/30, based on our initial checks, albeit likely to remain below demand.

Expect 36-40% consolidated revenue-net earnings CAGR for Waaree during FY25-28E; stage being set for sustainable growth beyond

Exhibit 4: Financial snapshot

Consolidated	FY21	FY22	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY21-FY25 CAGR	FY25-FY28 CAGR
Revenue (Rs mn)	19,530	28,543	67,509	1,13,976	1,44,445	2,54,210	3,19,283	3,67,268	65%	36%
EBITDA (Rs mn)	957	1,109	8,346	15,744	27,216	58,468	72,848	88,131	131%	48%
EBITDA Margin	4.9%	3.9%	12.4%	13.8%	18.8%	23.0%	22.8%	24.0%		
Adjusted PAT (Rs mn)	438	756	4,980	9,863	18,704	37,800	44,329	50,808	156%	40%
Net Profit Margin	2.2%	2.7%	7.4%	8.7%	12.9%	14.9%	13.9%	13.8%		
Adjusted EPS (Rs)	2.3	3.6	21.7	34.4	62.9	131.1	152.9	175.2	129%	41%
Effective Tax rate	31%	33%	26%	27%	25%	25%	25%	25%		
Module Capacity (MW)	2,000	4,000	9,000	12,000	14,900	26,700	26,700	26,700	65%	21%
Module Production (MW)		960	2,615	4,772	7,133	11,534	14,418	16,821	95%	33%
RoE	18%	28%	38%	34%	27%	40%	35%	31%		
Net Debt (Rs mn)	1,376	-1,864	-14,940	-35,330	-68,730	-73,431	-41,083	-97,726	NM	NM
Capex (Rs mn)	1,763	5,736	10,051	12,291	33,416	50,000	1,00,000	20,000	80%	-16%
FCFF (Rs mn)	569	1,348	3,381	4,229	-2,302	5,612	-31,541	55,908	NM	NM

Source: Company, Emkay Research

We estimate Waaree's consolidated revenue/EBITDA/APAT (net of minority) CAGR at 36%/48%/40% during FY25-28, to be driven by 33% increase in effective module shipments. Waaree is undertaking significant capacity expansion, with modules to reach 26.7GW by FY26-end (including in the US), with 6GW to be added in Gujarat (near Kutch; PLI scheme), 1.6GW in the US, and ~0.5GW in Chikhli, Gujarat. Cell capacity would increase to 15.4GW in Chikhli by FY27, and a wafer-ingot capacity of 10GW would be set up in Maharashtra, also by FY27-end. Total capex in the core PV chain would be ~Rs118bn, spread over FY26 and FY27. The integration to cell on the back of upcoming cell ALMM and further to wafer-ingot should support margins, even if there is downstream overcapacity; we build on a stable 23-24% EBITDAM, which is in line with management guidance of 22-24%. Waaree would continue to enjoy >30% RoE.

Exhibit 5: Module/cell/wafer-ingot capacities to reach 26.7/15.4/10.0GW by FY26-27-end

Solar PV (MW)	Modules	Cells	Wafer-Ingot
Future Capacity	26,700	15,400	10,000
Legacy plants+Indosolar	3,640		
Chikhli+Kutch	18,860	15,400	
US (incl Meyer)	4,200		
Nagpur, Maharashtra			10,000
Expansion CoD	FY26 End	FY27	FY27

Source: Company, Emkay Research

Also, Waaree is investing Rs101bn for setting up BESS capacity (Li-based cell and pack) of 20GWh by FY28, given the rising prominence of RTC and peak power, which are becoming an integral part of solar power tenders. Phase-1 of 3.5GW with Rs20.7bn capex would commission in FY27, while Phase-2 of 16.5GW would commence by FY28. We have made an assumption for capex of Rs20.7bn, but not for any contribution in earnings from BESS during FY27-28, though we have valued it at 1x EV/invested capital (IC). Besides this, the company is investing Rs1.8bn for 4GW of inverter capacity by FY26-27; Rs6.8bn for 1GW of electrolyzer capacity by FY27; and Rs23bn on IPP and acquisitions in the transformer and meter space. Diversifying into BESS, inverters, electrolyzers, etc, besides its established EPC and O&M presence, would transform Waaree into a complete service provider for customers and help it command a higher wallet share, apart from making it more future-ready.

Exhibit 6: Other capex plans include BESS, inverters, green hydrogen electrolyzers, etc

BESS	Phase-1	Phase-2	Total	Inverter	Phase-1	Phase-2	Total
CoD	FY27	FY28		CoD	Q4FY26	FY27	
Capacity (MWh)	3,500	16,500	20,000	Capacity (MW)	3,000	1,000	4,000
Capex (Rs mn)	20,730	80,000	100,730	Capex (Rs mn)	1,300	500	1,800
Under construction, Li-based cell and ESS				Under construction			
Electrolyzer	Phase 1	Phase 2	Total	Capex breakdown (Rs bn)			
CoD	FY27	FY27		6 GW PLI (Integrated)			91
Capacity (MW)	300	700	1,000	4 GW (C+W-I)			28
Capex (Rs mn)	5,510	1,250	6,760	BESS			100
Under construction				Allied			32
				Total			250

Source: Company, Emkay Research

Valuation reasonable, given the growth

Against trailing consolidated EV/EBITDA and PER of 29x and 46x, given the strong earnings growth, forward valuations are reasonable at 8.3x and 16.4x FY28E, respectively. We value Waaree's core business at 14x FY28E EV/EBITDA and BESS separately at 1x Phase-1 capex (invested capital) of Rs20.7bn and adjusting the minority interest (~24x target PER). We arrive at target price of Rs4,260, which provides 48% upside from the CMP. Our TP implies a target P/E of 24.3x. We initiate coverage on Waaree Energies with BUY.

This report is intended for Team White Marque Solutions (team.emkay@whitemarquesolutions)

Exhibit 7: Waaree's SOTP-based valuation – Core PV business at 14x FY28E EV/EBITDA

Consolidated (Mar-27E)	(Rs bn)
EBITDA	88,131
Target EV/EBITDA (X)	14.0
EV	1,233,834
Net Debt (Mar-27 end)	-41,083
Equity Value	1,274,917
Minority Interest	2,477
Target P/E (x)	24.4
Value of Net Minority	60,427
Target Equity Value	12,14,490
Target Equity Value/share (Rs) (Core business)	4,188
Investment in BESS	20,730
Target P/B (x)	1.0
Value of investment in BESS	20,937
Value of investment in BESS/share (Rs)	71
Target Price (Rs)	4,260

Source: Company, Emkay Research

Exhibit 8: Waaree's PER-based valuation

	FY23	FY24	FY25	FY26E	FY27E	FY28E
Consolidated EPS (Rs)	21.7	34.4	62.9	131.1	152.9	175.2
Target P/E (x)						24.3
TP (Rs)						4,260

Source: Company, Emkay Research

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Key investment thesis

ALMMs to protect integrated players

The Approved List of Models and Manufacturers (ALMM) has been a major driver for growth of the solar manufacturing industry in India, as it protects domestic players from cheaper imports, especially from China (which enjoys benefits of extraordinary scale and government support). ALMM also helps maintain quality and standard of products, given the deployment range of up to 25 years. The ALMM-I implementation was erratic, though it has been steady from Jan-24 and has led to sizable capacities being set up to that extent, with module in overcapacity currently (~150GW, including ~30GW of non ALMM capacity). To develop cell capacity now, ALMM-II is planned for implementation from Jun-26; ALMM-III implementation has been proposed for wafer-ingot from Jun-28.

Solar capacity addition momentum should continue with ESS

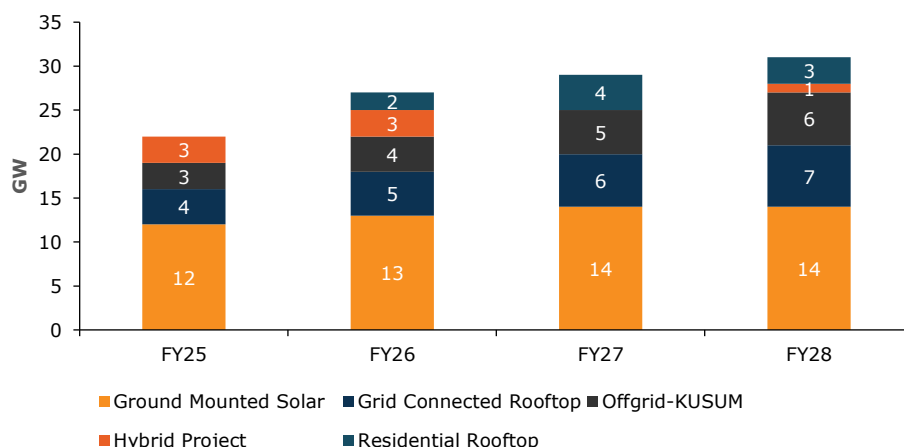
Installed solar generation capacity in India as of FY25-end stood at 106GWac, while ~22GW was added in H1FY26, with capacity at Sep-25 end being ~129GWac. There have been recent concerns wrt non-signing of PPAs despite award on the back of grid curtailment issues, discom preference for RTC power, and transmission connectivity delays, though CY25 addition still seems steady. The solar market is moving away from plain vanilla to ESS-based projects, wherein policy push and capex announcements in BESS and development of PSPs imply that growth is expected to continue, given the government's ambitious target, ESG goals of corporates, retail seeing cost benefits, and discom RPO target at 43.3% by FY30 vs 29.9% in FY25.

Exhibit 9: Indian module is likely to see overcapacity, though cell and wafer-ingot capacity should be largely stable over the next 5 years

GW	FY22	FY23	FY24	FY25	FY26E	FY27E	FY28E	FY29E	FY30E
Installed Solar Power Capacity in AC	54	67	82	106	132	162	200	243	290
Addition in AC	14	13	15	24	26	30	38	43	47
Addition in DC	20	18	21	34	36	42	53	60	66
Cell Manufacturing Capacity (DC)	3	7	9	25	40	60	80	85	90
Assumed Plant Utilization	85%	85%	85%	85%	85%	85%	85%	85%	85%
Cell Production (DC)	3	6	8	21	34	51	68	72	77
Module Capacity (DC)	18	38	60	74	150	175	200	210	220
Wafer-Ingot Capacity (DC)				2	5	15	25	40	60
Polysilicon Capacity (DC)						5	10	15	20

Source: Company, Industry, Emkay Research

Average installed solar power capacity addition in India is expected at ~30GWac pa during FY26-28, given government target of ~300GWac by CY30. By FY28 (our forecast period), installed capacity should reach 200GWac. Grid-mounted solar capacity addition, especially at the utility scale, should be the highest, though rooftop solar capacity addition would also be sizable.

Exhibit 10: Utility scale ground mounted solar as well as rooftop are major growth areas

Source: Company, Emkay Research

Beyond FY28, the momentum should continue on a higher base, but if sectors like green hydrogen and captive C&I pick up, the addition can be much higher, as the GoI's 5mmtpa green hydrogen target implies 125GW of additional solar capacity, while players like RIL and Adani have significant captive and export plans, which may not properly reflect in the estimates.

Key schemes driving the solar sector in retail as well as non-retail categories

PM Surya Ghar Muft Bijli Yojana and PM KUSUM (Kisan Urja Suraksha evam Utthaan Mahabhiyan) are two major retail small-scale schemes for driving solar adoption in households and the agriculture sector.

PM Surya Ghar (rooftop) was launched in Feb-24, providing 300 units to households every month with capital outlay of Rs750bn. It targets 10mn households by CY27, amounting to 30GW capacity, with FY25 addition at 3GW and FY26E addition expected at 10GW, given 6.8GW cumulatively installed till Oct-25. By CY27, the scheme would meet its target in our view, and further expansion in coverage is likely; this should keep overall rooftop demand steady in the medium term. It has a DCR component of 60-70% with full cell DCR.

Exhibit 11: Status of PM Surya Ghar

Progress	As of Oct-25
Applications	66,15,706
Installations	18,34,493
Households Covered	22,98,408
Installed Capacity (MW)	6,814
Capacity/Household (kw)	3.0
Subsidy Released (Rs mn)	1,31,675
Subsidy/household (Rs)	57,290
Pending demand - 27GW in 2 years	ALMM II is already applicable

Source: GoI, Emkay Research

PM KUSUM (agriculture) targets solarization in the rural agriculture sector through solar capacity and pump solarization. The scheme saw some hiccups versus its initial launch; though post-Covid, in Mar-23, a target of 34.6GW for Mar-26 end was set, involving 10GW of solar capacity, 1.4mn of solar agri pump installation, and 3.5mn of grid connected agri pumps being solarized. However, the components have seen mixed progress, with offgrid installations reporting 72.1% progress as of Oct-25, and other components lagging. Around 9.5GW has been installed so far, with 30GW pending.

This report is intended for Team White Marque Solutions (team.emkay@whitemarquesolutions)

Exhibit 12: Status of PM KUSUM

Components (as on 31-Oct-25)	Progress	Target	Sanctioned	Installed
10GW grid connected solar capacity	6.5%	10,000	10,000	653
1.4mn offgrid solar agri pumps installation	72.1%	1,400,000	1,272,758	917,275
3.5mn grid connected agri pumps solarization				
IPS	17.3%	3,500,000	60,828	10,535
FLS	27.4%	3,500,000	3,561,855	974,458

Source: GoI, Emkay Research

Besides the retail schemes, CPSU Phase II and Open Access are other schemes targeting bulk consumers. The CPSU Phase II scheme targets 12GW with Rs85.8bn of VGF for grid connected projects, and 7GW has already been achieved; the remaining 5GW is expected to be added in the next 2 years.

The open access scheme for C&I players targets grid-connected consumers, and ~27GW has been achieved till H1FY26-end; around 28GW is pending in the medium term, with 5-6GW addition pa.

The solar park scheme also aims to establish ~40GW of installed solar capacity by FY29, though this scheme is an older one and initial targets were missed.

Solar PV manufacturing capacity addition of ~45GWdc required in FY26-28 pa

Against 30GWac of installed solar capacity addition pa, average solar PV module supply of >45GWdc pa is required at 1.4x DC to AC loading. While Indian module manufacturing capacity crossed 70GW in FY25 and is expected to reach ~200GW by FY28, installed cell capacity would be the main factor from next fiscal onward due to implementation of ALMM-II (cells) from 1-Jun-26 and consequent DCR requirements. Beyond FY28, the proposed ALMM-III (wafer-ingot) should set in, and dynamics should see a shift to wafer-ingot.

Most of the marquee module players are setting up large cell capacities with over 100GW announced, per our industry checks; actual capacity as of FY26/27/28-end is likely to be 40/60/80GW, given the complexities involved in cell manufacturing and hitting the theoretical 85-90% plant capacity utilization. Cell plants are more capital-intensive with Rs6-6.5bn capex required to set up 1GW vs Rs1.25-1.5bn for module. It also takes 18 months to set up vs 6 months for modules. Also, stabilization, especially for new players, is likely to take 6-12 more months; hence, the actual volume could come at a 1-year lag versus mechanical completion.

Exhibit 13: ALMM on cells would be effective Jun-26

Current	wef	No of players	GW
ALMM-I (Modules)	Apr-24	104	116.4
ALMM-II (Cells)	Jun-26	12	18.5
ALMM-III (Wafers-Ingots)	Jun-28	Proposed	

Source: GoI, Industry, Emkay Research

Exhibit 14: Unit capex and completion timeline

Particulars	Rs mn/GW	No of months for completion
Module	1,375	6
Cell	6,250	18
Wafer-Ingots	3,750	20

Source: GoI, Industry, Emkay Research

Based on our expectations, 85% capacity utilization implies ~50GW of domestic cell production pa, albeit difficult to achieve at the industry level, especially by FY28. Additionally, technology upgrade is also required. Against 27-28GW of installed cell capacity currently, 18-19GW has been put under ALMM-II, though 60% of this is MonoPerc; hence, requirement of Top-Con and other new technologies is higher. This is true even for modules. And, per our checks, a number of capacities would become obscure due to this, going ahead. Notably for Waaree, 5.4GW cell capacity comprises 4GW of TopCon and 1.4GW of MonoPerc (which can also be easily converted to TopCon). Waaree's future capacities would all entail TopCon or a higher form of technology with better efficiencies.

As wafer-ingots gain prominence from FY29, we estimate their capacity to increase to 40/60GW as of FY29/30 end, which is albeit lower than the 60/66GWpa required by then, with actual wafer-ingot plant utilization also a crucial factor. ALMM-III would be implemented subject to 15GW of cumulative capacity being set up by three players at utility scale. A wafer-ingot plant would require less capex than a cell plant, at Rs3.5-4.0bn per GW, though the time taken to set up a plant is higher, at ~2 years. Per initial estimates, ~20GW of polysilicon capacity equivalent to ~50ktpa is also expected by CY30, though plans of players like RIL and

Adani are still not clear. Further, polysilicon is highly energy-intensive, with China enjoying near dominance in global markets. Hence, per our checks, most players would rely on imported polysilicon, though Waaree in particular is likely to become more open to integration into polysilicon, as it becomes more feasible.

Solar PV manufacturing also receives various other benefits in India

Besides ALMM, various other protection measures are provided for PV manufacturing in India which has helped the country build capacity rapidly. These include basic customs duty of 40%/25% on imported modules/cells, anti-dumping duty of 30% on cells and modules from China for 3 years (recommended by DGTR), and Domestic Content Requirement (DCR) for government schemes like Surya Ghar, KUSUM, and PSU. Recently, GST on solar components including cells, modules, and inverters was also cut, from 12% to 5%. State governments also gives benefits, eg up to 30% capex-opex subsidies and rebates on GST, water, and electricity charges. The GoI has also provided PLI scheme benefits to selected players who have met the criteria, Waaree being one of them with Rs19.2bn outlay.

Tranche-I of the PLI scheme provided Rs45bn to set up 8.7GW capacities, while Tranche-II granted Rs139bn for 39.6GW. For Waaree, the PLI covers 6GW of wafer-ingot, cell, and module capacity, which it plans to set up in Gujarat and Maharashtra with CoD of the project at FY26-end (module) and FY27 (others). Waaree would enjoy incentives in 5 years, based on production benchmarks. Other major winners include RIL, Indosol, First Solar, ReNew, and Tata Power.

Exhibit 15: PLI scheme provides additional support

Player (MW)	Extent	Installed capacity	PLI eligible capacity	PLI amount (Rs mn)
Tranche I				
Shirdi Sai Electricals (Indosol)	P+I-W+C+M	4,000	2,000	18,750
RNESL (RIL)	P+I-W+C+M	4,000	2,000	19,170
Adani Infra Pvt	P+I-W+C+M	737	368	6,630
Total		8,737	4,368	44,550
Tranche II				
Shirdi Sai Electricals (Indosol)	P+I-W+C+M	6,000	3,000	33,000
RNESL (RIL)	P+I-W+C+M	6,000	3,000	30,980
FS India Solar	P+I-W+C+M	3,400	1,700	11,776
Waaree Energies	I-W+C+M	6,000	3,000	19,232
Avaada Ventures	I-W+C+M	3,000	1,500	9,616
ReNew Solar	I-W+C+M	4,800	2,400	15,386
JSW Renewable	I-W+C+M	1,000	500	3,205
Grew Energy	I-W+C+M	2,000	1,000	5,667
Vikram Solar	C+M	2,400	1,200	5,285
Ampin Solar	C+M	1,000	500	1,397
TP Solar (Tata)	C+M	4,000	2,000	3,830
Total		39,600	19,800	139,374

Source: Industry, GoI, Emkay Research; Note: P is polysilicon, I-W is ingot-wafer, C is Cell, and M is Module

Integration to support business margins; Waaree's capacity expansion underway

Cell and wafer-ingot integration, besides satisfying ALMM and other government regulations, would also support margin expansion for integrated players and provide supply security. Notably, integrated capacity is essential for long-term success and sustainability of this sector. First movers with sizable scale will be the gainers and flourish.

Integration can lead to a sizable margin expansion

Based on the company management's long-term EBITDA margin guidance for module, of 18-20%, we note that cell cost in module—which is ~40%—implies EBITDA margin expansion of ~600bps under a 100% module-to-cell integration and another 300bps from integration up to wafer-ingot. In case of Waaree, and not adjusting capacity utilization (CU) differences (70-75% for modules vs 85-90% for cells, which can provide further expansion) and DCR

dynamics, expansion in margins could be ~300bps for cells and another >100bps for wafer-ingot.

Exhibit 16: Waaree's capacity expansion and integration plans

Capacity (GW)	Current	FY27 end	Integration	
Module	16.1	22.5	Basic	CU Adj.
Cell	5.4	15.4	68%	88%
Wafer-Ingot	0.0	10.0	65%	65%

Source: Company, Industry, Emkay Research

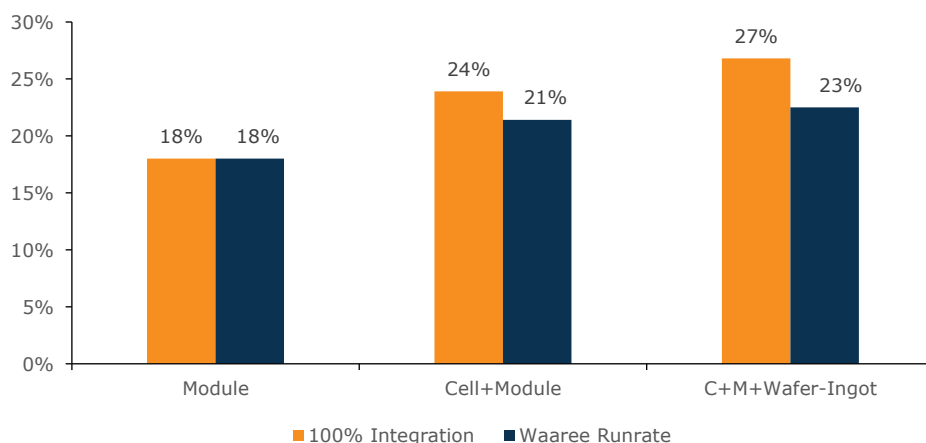
The company, hence, would be well placed to compete on pricing, even if new capacities are set up; also, given its size and economies of scale, Waaree should be a cost leader.

Exhibit 17: Estimated DCR vs non-DCR vs export margin trend for Waaree

USD/w	Export	DCR	Non DCR	Blended
Module Price	0.31	0.26	0.15	0.23
Cell Cost	0.14	0.08	0.04	0.08
GPM	0.11	0.11	0.04	0.09
Other Cost	0.07	0.07	0.07	0.07
GPM	34%	44%	27%	38%

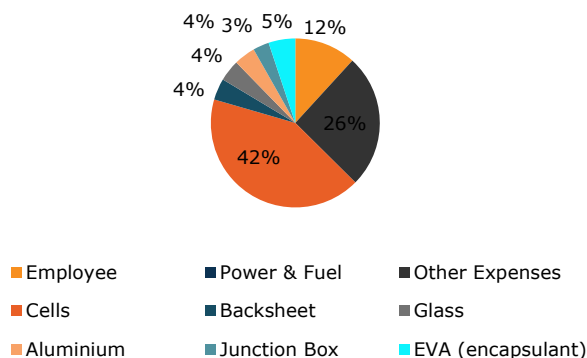
Source: Company, Industry, Emkay Research

Exhibit 18: Margin expansion from integration – 100% vs Waaree's run rate

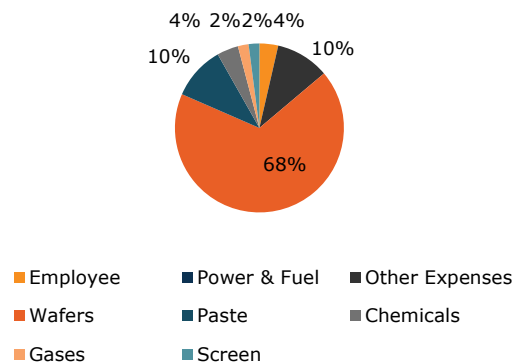


Source: Company, Industry, Emkay Research

Additionally, cell ALMM would lead to 100% DCR module for Waaree, including non-scheme segments, and support further expansion in margins as DCR margins are estimated to be 500-600bps higher than Waaree's current blended rate. Higher share of TopCon would also be margin accretive, as realizations are higher by USD0.04-0.05/w.

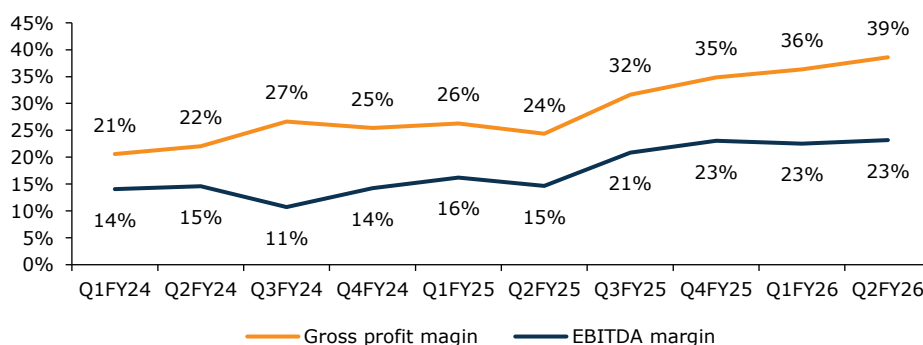
Exhibit 19: Cost breakdown for modules


Source: Industry, Emkay Research

Exhibit 20: Cost breakdown for cells


Source: Industry, Emkay Research

Waaree's margins saw a sharp increase from Q3FY25, with EBITDAM expanding by 600bps QoQ to 21% and further rising to 23% sustainable levels by Q4FY25. The company attributed this to a favorable input cost environment, higher domestic, retail, and DCR share, process optimization, and a profitable order-book execution. Going ahead, the management has guided for 22-24% sustainable EBITDAM, which we believe is reasonable even after keeping some cushion from rising capacities impacting the pricing environment and owing to US-level uncertainties in the near term.

Exhibit 21: Waaree's GPM and EBITDA margin profile


Source: Company, Emkay Research

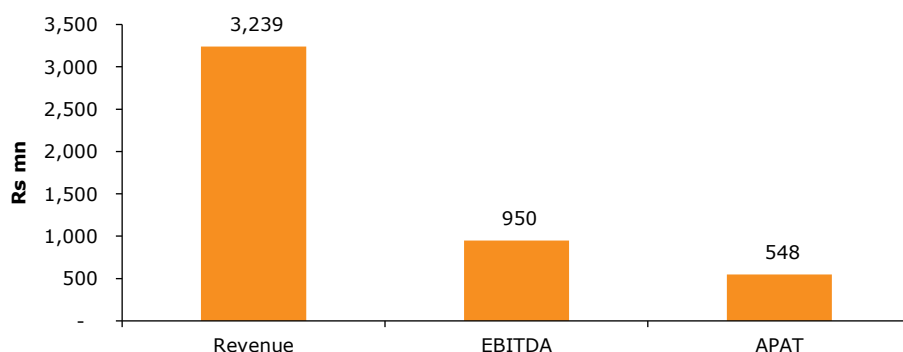
Waaree continues to demonstrate industry-leading profitability, with EBITDA margin of 19% in FY25; this places the company among players displaying the highest margin in the domestic module manufacturing sector. Waaree trails only Emmvee (EBITDA margin: 31%), Avaada Electro (27%), and Premier Energies (27%). Performance of both Premier and Emmvee is superior, primarily supported by their backward integration into cell manufacturing. Waaree, meanwhile, is steadily enhancing its own operational efficiency through disciplined cost management, back-to-back sourcing, and strict control on manufacturing expenses. This improvement is reflected in its H1FY26 EBITDA margin of >25%. Even after excluding the Rs1.6bn IRA benefit, underlying margins improved to ~21%, underscoring the company's pricing power, while it maintained leadership in revenue market share. The IRA benefit would however continue well up to CY30.

Exhibit 22: Peer comparison – Waaree is among the top performers

(Rs mn)	Waaree Energies	Premier Energies	Vikram Solar	Rayzon Solar	Saatvik Green	Emmvee Photovoltaic	Solex Energy	Avaada Electro	Goldi Solar*	Renewsys India*
Revenue	144,445	65,187	34,235	28,188	21,584	23,356	6,600	9,116	34,200	24,500
RMS	37%	17%	9%	7%	6%	6%	2%	2%	9%	6%
EBITDA	27,216	17,809	4,920	4,744	3,199	7,219	688	2,417	1,194	1,909
EBITDA Margin	19%	27%	14%	17%	15%	31%	10%	27%	7%	9%
Adjusted PAT	18,704	9,371	1,398	3,283	2,139	3,690	396	1,733	594	851
Net Profit Margin	13%	14%	4%	12%	10%	16%	6%	19%	3%	4%

Source: Company, Industry, Emkay Research; *Note: Revenue and market share are for FY25, while EBITDA and PAT are for FY24

Waaree has demonstrated strong execution capability through the rapid and effective turnaround of Indosolar, which it acquired through the NCLT resolution process. Indosolar, which was previously a loss-making manufacturer, returned to profitability in FY25, with APAT of Rs548mn compared to loss of Rs154mn in FY24 (pre-acquisition). The recovery was bolstered by a sharp increase in revenue to ~Rs3.2bn in FY25, alongside healthy EBITDA margin of ~29%, as it commenced production at the 1.3GW solar module manufacturing facility in Noida. The combination of renewed profitability and rapid capacity ramp-up under Waaree's stewardship highlights Waaree's ability to scale up operations efficiently, while strengthening its overall financial performance.

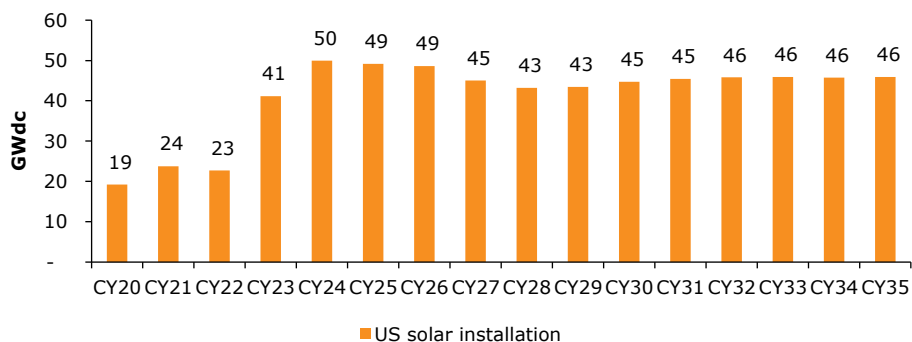
Exhibit 23: Indosolar's FY25 financial performance

Source: Company, Industry, Emkay Research

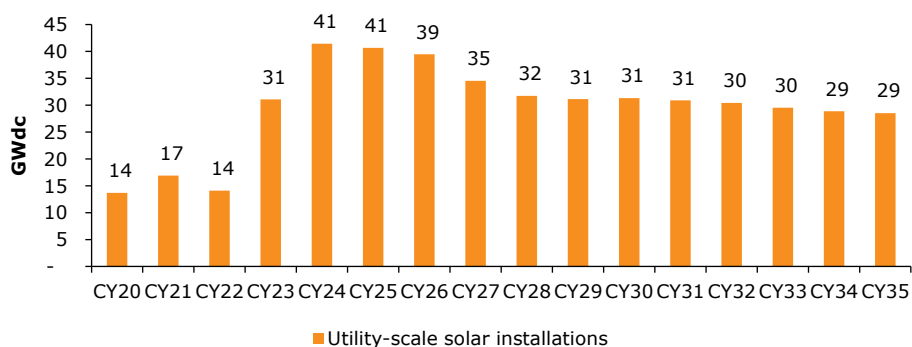
USA, a lucrative geography clouded by near-term uncertainties

The US solar market remains a cornerstone of global clean-energy growth and is expected to maintain multi-decade expansion, despite near-term policy adjustments. Installed solar generation capacity grew rapidly through CY24, with the country adding ~50GW in that year alone, bringing cumulative capacity to over 248GW by early-CY25. Such growth has been driven by large-scale utility procurements, corporate PPAs, and robust residential adoption. The US Department of Energy (DOE) aims to sustain this momentum, and targets an average of 30GW of solar capacity additions per year through CY25, scaling up to 60GW annually between CY25 and CY30. The DOE also identifies a substantial rooftop potential exceeding 1,100GW, underscoring distributed solar as a major and enduring addressable market.

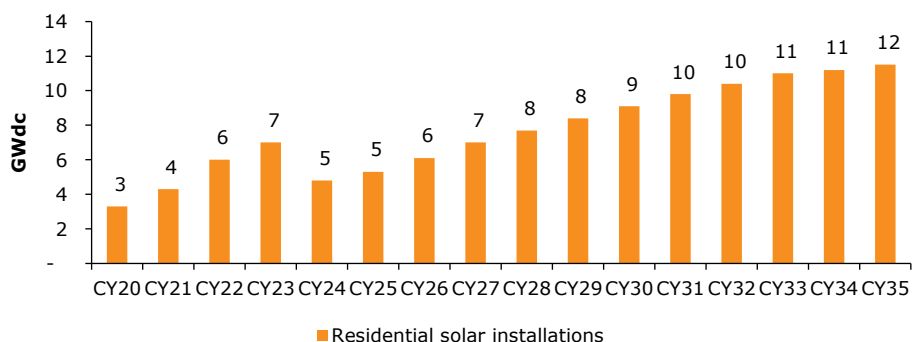
Federal incentives, tax credits, and state-level programs continue to be key drivers of the US solar market growth, supported by strong corporate demand, declining module and balance-of-system costs, and electrification-driven load growth from sectors such as EV charging and data centers. These factors together ensure a baseline of multi-gigawatt annual installations, even under conservative scenarios. In the near term, growth is expected to be bolstered by policy incentives and tax-credit structures that significantly influence project economics, ongoing state and utility procurement programs offering large-scale utility volumes, expansion of residential and C&I rooftop installations through permitting reforms and community solar initiatives, and long-term industrial demand that strengthens merchant and corporate offtake economics. As a result, the US is likely to continue adding tens of gigawatts of solar capacity annually through CY30, although future growth remains increasingly sensitive to policy developments.

Exhibit 24: US outlook on PV installation


Source: Wood Mackenzie, Emkay Research

Exhibit 25: Utility-scale installations to grow rapidly


Source: Wood Mackenzie, Emkay Research

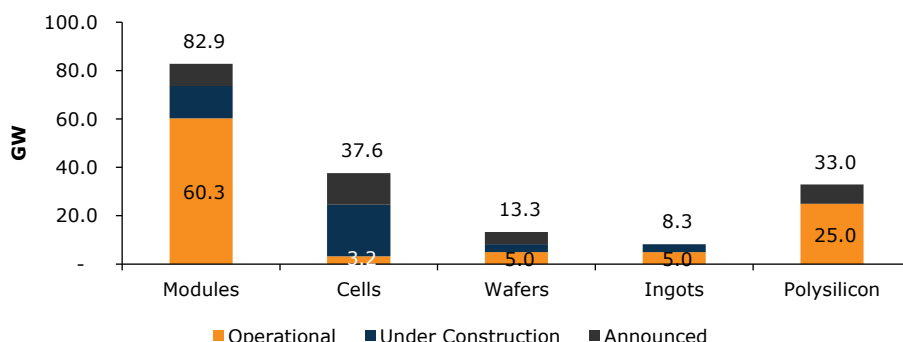
Exhibit 26: Residential solar installations to accelerate, and thus contribute to overall PV addition


Source: Wood Mackenzie, Emkay Research

The US solar manufacturing landscape has expanded rapidly, though structural imbalances remain. According to the Solar Energy Industries Association (SEIA) Supply Chain Dashboard, significant progress has been made across the country's solar and storage supply chain. Module production capacity reached over 60 GW by Nov-25, representing 37% increase from CY24, while solar cell production more than tripled, rising from 1GW to 3.2GW. The US now possesses domestic capabilities across all major PV components, including polysilicon, wafers, cells, modules, inverters, mounting systems, and stationary battery storage. Inverter manufacturing grew from 19GW to 28GW, and mounting-system capacity increased by ~14%. Battery-cell manufacturing for stationary storage applications now exceeds 21GWh, sufficient to support large-scale deployment. Collectively, such developments indicate that the US solar industry is becoming increasingly self-reliant, reducing import dependence while creating substantial market opportunities for module assemblers, and companies capable of sourcing

cells. At the same time, the expansion presents a strategic opening for upstream producers of cells, wafers, and polysilicon, to establish domestic capacity and capture higher value in the supply chain.

Exhibit 27: US PV supply chain capacity



Source: SEIA, Emkay Research

The US market offers significant near- and medium-term opportunities for solar component manufacturers. In the near term, manufacturers can supply modules through domestic assembly to capture Inflation Reduction Act (IRA)/45X incentives or via exports from trusted geographies, managing foreign-supplier certification risk. Module assembly margins are expected to remain attractive, supported by constrained upstream cell supply. Over the medium term, the most lucrative strategy involves vertical integration into cells and wafers or forming partnerships with US-based or compliant non-FEOC cell suppliers. Sustainable value will accrue to companies that secure long-term cell supply, maintain 45x eligibility where applicable, or localize upstream production. Key risks in the US market include supply-chain constraints for cells, wafers, and polysilicon, potential tariff or anti-dumping actions impacting ASEAN exporters, and evolving interpretations of domestic content and supplier-certification requirements. These challenges underscore the importance of securing binding offtake agreements, engaging in contract manufacturing, and forming strategic local partnerships to capture US market growth without committing to full upstream investment.

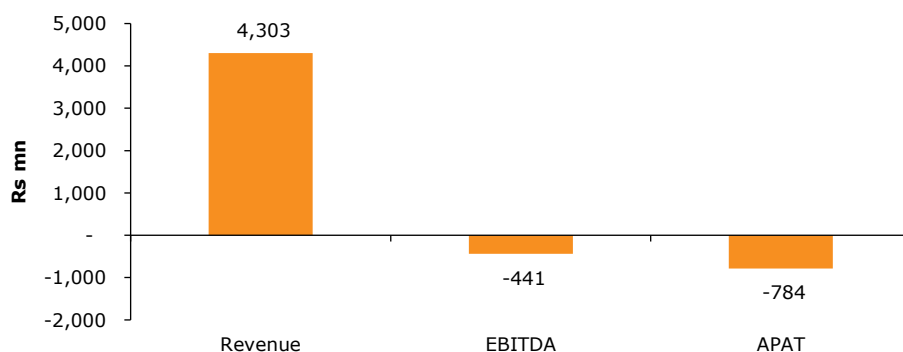
The One Big Beautiful Bill Act (OBBBA) has significantly reshaped US solar incentives, narrowing near-term installation tailwinds while maintaining selective benefits for domestic manufacturing. It tightens eligibility windows and start-of-construction rules for project tax credits, compressing developer timelines, and reducing the number of projects qualifying for full IRA incentives. The legislation also strengthens FEOC and foreign-influence rules, increasing the commercial premium for genuine domestic supply-chains. For module and cell manufacturers, this raises demand for certified domestic or non-FEOC components while emphasizing the importance of compliance and supply-chain validation. Overall, OBBBA reinforces the long-term case for US upstream investment and creates immediate opportunities for verified non-FEOC suppliers from India, Southeast Asia, or other compliant regions to meet demand during the US capacity scale-up.

To strengthen its position in this high-potential market, Waaree commissioned a 1.6GW module manufacturing facility in FY25 and recently acquired a 1GW facility from Meyer Burger in Arizona, thus improving its total US capacity to 2.6GW, with plans to expand further to 4.2GW in the near term. The US has become a key growth driver for Waaree. While policy uncertainties persist, the US order book is sizable, as it is a large part of the current Rs280bn orderbook, which would be executed over the next 3-3.5 years. Any breakthrough in India-US trade relations is likely to be a meaningful positive for Waaree. Per our channel checks, Indian players would find at least 10% of their volumes shipped to international markets, and any policy driver internationally (especially the US) would be a key positive for Waaree. Notably, Waaree is being investigated by US authorities for allegedly evading anti-dumping and countervailing duties by mis-labelling Chinese cells as Indian. As of now, the outcome of the investigation cannot be ascertained.

Waaree conducts its US operations through Waaree Solar America. In FY25, Waaree Solar America generated total revenue of Rs4.3bn while reporting EBITDA loss of Rs441mn. Net loss for the year stood at Rs784mn as the scale was less, though we expect this year's

profitability to be strong. Waaree's moat in the US, besides its low-cost structure, is the already secured approval from customers that otherwise takes years for new players.

Exhibit 28: Waaree Solar America's FY25 financial performance



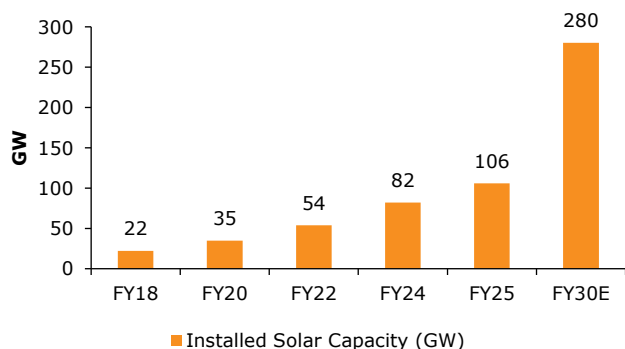
Source: Company, Emkay Research

Diversification into scalable growth verticals with synergies

EPC and O&M

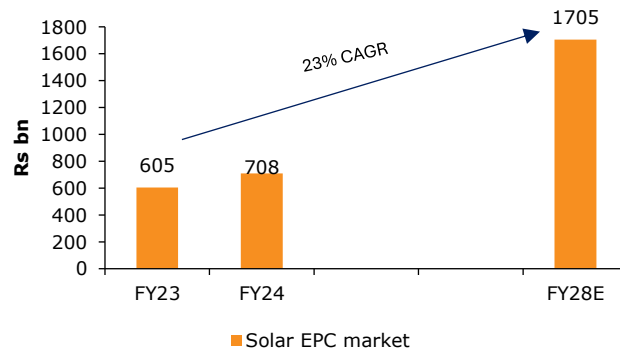
India's solar EPC services market is projected to see a robust 23% CAGR, up from Rs605bn in FY23 to Rs1,705bn in FY28, broadly tracking the government's ambitious target to scale up national solar capacity from 106GW in FY25 to ~300GW by FY30. This strong growth outlook is underpinned by multiple supportive policies, including the Solar Park policy, under which 55 parks with an aggregate capacity of >40GW have been approved, with 13GW already commissioned, 12.9GW under tendering, and 15GW under construction, as of Jun-25. The PM Surya Ghar Muft Bijli Yojana, with proposed outlay of Rs750bn for 10mn households, has further accelerated rooftop solar adoption, enabling ~0.2mn installations by Sep-25 and targeting 30GW of residential rooftop capacity addition by CY27. In parallel, the PLI scheme for solar PV manufacturing, along with measures such as DCR, ALMM, and the reduction of GST on modules from 12% to 5%, continues to strengthen domestic competitiveness. Collectively, these initiatives are set to drive substantial solar capacity deployment, thereby boosting EPC demand. To capitalize on this opportunity, Waaree is actively pursuing both domestic and international EPC contracts through government and private-sector bidding processes, while leveraging its integrated renewable-energy ecosystem (from modules to storage) to enhance win rates and deepen customer engagement.

Exhibit 29: GoI's installed solar capacity target



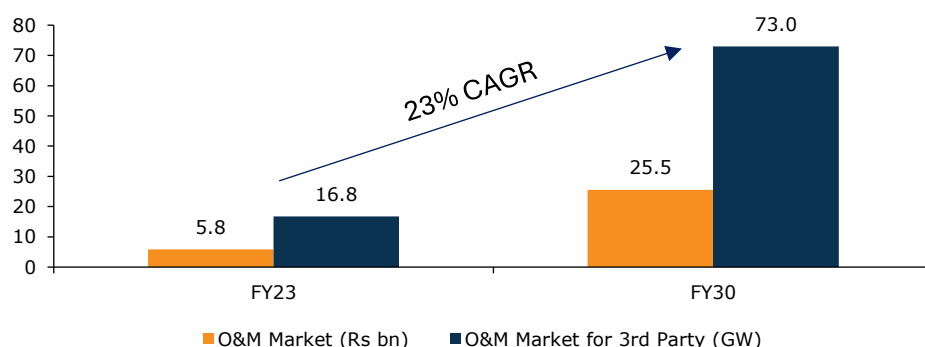
Source: Company, Emkay Research

Exhibit 30: Domestic demand for solar EPC service



Source: Company, Emkay Research

The domestic solar O&M market is expected to see significant growth, from Rs5.8bn in FY23 to Rs25.5bn by FY30, driven by the steady addition of solar capacities. Waaree is actively pursuing third-party O&M opportunities through both organic expansion and inorganic routes. The company aims to strengthen its positioning by offering differentiated, value-accretive services such as drone-based thermography, advanced analytics and predictive maintenance, underground cable fault detection, and other technology-enabled solutions designed to maximize asset performance and improve customer returns.

Exhibit 31: Domestic market potential of solar O&M

Source: Company, Emkay Research

Waaree provides turnkey EPC and O&M services through listed subsidiary Waaree Renewable Technologies (WRTL), executing ground-mounted, rooftop, and floating solar projects for commercial, industrial, and institutional clients across India. Its end-to-end capabilities span pre-feasibility assessments, land and site identification, detailed design and engineering, and full project construction. As of H1FY26, the company had commissioned ~3.95GWp of solar projects, including 59.26MWp of rooftop capacity, and had unexecuted order book of ~3.48GW. Waaree also provides long-term O&M services, covering system monitoring, repairs, and performance optimization, with an operational portfolio of ~769MWp. In addition, it has developed 54.82MWp of IPP solar assets and is in the process of setting up another 107.1MWp. The EPC and O&M segments contribute ~10% of the total revenue, functioning as a complementary and scalable vertical that strengthens Waaree's execution capabilities and enhances its integrated renewable energy ecosystem. While projects are bid at 10-15% targeted EBITDA margin, optimization during execution has led to largely beating this bid out margin.

Exhibit 32: WRTL's financial snapshot

(Rs mn)	FY21	FY22	FY23	FY24	FY25	FY26E	FY27E	FY28E
Revenue	130	1,615	3,510	8,765	15,977	22,664	29,822	33,020
EBITDA	70	235	837	2,072	3,109	3,626	4,921	5,613
EBITDA Margin	54%	15%	24%	24%	19%	16%	17%	17%
Adjusted PAT	-38	55	554	1,453	2,322	2,812	3,895	4,568
Net Profit Margin	-29%	3%	16%	17%	15%	12%	13%	14%
Outstanding Orderbook (MWp)	NA	NA	856	2,191	3,263	3,671	4,059	4,470

Source: Company, Emkay Research

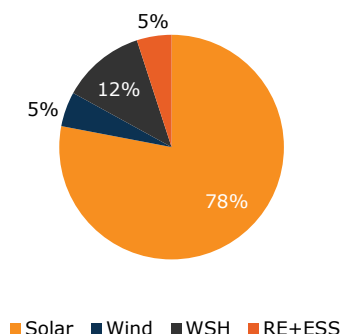
Battery Energy Storage Systems (BESS) manufacturing, a crucial cog

Despite an ambitious target to install almost 300GW of solar capacity by CY30, integrating a significant share of variable and intermittent renewable energy into the grid poses challenges for maintaining stability and ensuring an uninterrupted power supply. The output from renewable sources fluctuates with time, climate, season, and geographic location, creating variability in energy availability. In this context, energy storage systems (ESSs) are essential for enhancing the flexibility, reliability, and efficiency of modern power systems. ESS solutions facilitate the storage, conversion, and timely dispatch of electricity while improving grid stability, enabling peak shifting, reducing peak deficits, and supporting the integration of larger shares of renewable energy.

Driven by India's ambitious CY30 renewable energy target of 500GW non-fossil capacity and increasing grid stability requirements, the country is witnessing rapid growth in hybrid tenders, combining renewable energy with battery storage. The share of hybrid capacity in renewable energy tenders has surged from ~12% in CY21 to over 49% in CY24, with ~12.8GWh of BESS capacity auctioned between CY22 and May-25 for both hybrid and standalone applications. Large-scale tenders from NTPC, SECI, and state utilities, along with mega-project announcements by private IPPs, have created a multi-GWh project pipeline. Despite this, only 219MWh of BESS capacity is reported as operational, highlighting a significant backlog of projects under construction. Key reasons for such delays include delay

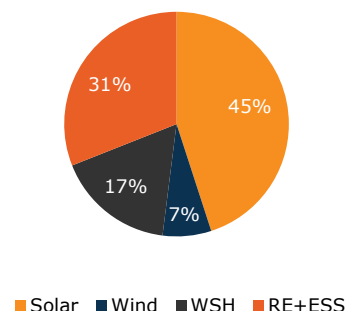
in PPA signing and transmission interconnections, higher financing costs owing to perceived risks, and limited domestic manufacturing capacity resulting in reliance on imports.

Exhibit 33: Share of RE tender by type, in FY20 (37GW)



Source: Industry, Emkay Research

Exhibit 34: Share of RE tenders by type, in FY25 (59GW)

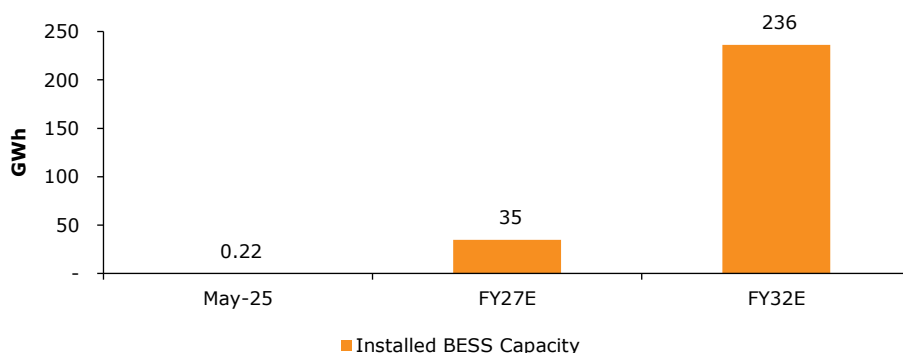


Source: Industry, Emkay Research

Strong policy support and declining battery costs are expected to drive greater adoption of BESS in India. To reduce costs, the government has introduced Rs91bn in viability gap funding (VGF) for 43.2GWh of BESS capacity. Additionally, a PLI scheme has been announced for promoting domestic manufacturing of 50GWh of advanced chemistry cell (ACC) batteries, with total outlay of Rs181bn. The Ministry of Power has also notified a long-term trajectory for energy storage obligations (ESOs) for ensuring adequate storage capacity among obligated entities, starting at 1% in FY24 and rising to 4% by FY30, with an annual increase of 0.5%, while several states have incorporated stricter storage targets into their renewable energy policies. Such measures are collectively accelerating the adoption of energy storage solutions. Accordingly, the CEA projects that India's BESS capacity requirement will reach 34.72GWh by FY27, increase to 236.22GWh by FY32, and expand further to 1,840GWh by CY47, driven by higher renewable-energy integration in line with the country's net-zero emissions target.

BESS is gaining from faster deployment timelines (18-24 months), greater flexibility in site selection, and strong policy support. With continued declines in battery prices and sustained government incentives, BESS is expected to dominate future standalone energy storage tenders, enabling faster and more cost-effective deployment of energy storage solutions in India's evolving renewable-energy landscape.

Exhibit 35: India aims for sizable BESS capacity by end of the decade



Source: MNRE, Emkay Research

The Government of India (GoI) introduced the VGF scheme for BESS, to accelerate the development of large-scale storage essential for renewable-energy integration, grid stability, and peak-shifting. Given the high upfront cost of battery storage, early-stage projects are often commercially unviable at prevailing market tariffs, making VGF crucial for bridging the financial gap. By subsidizing a portion of the project capex, the scheme lowers the delivered storage cost (Rs/KWh-cycle), enhances project bankability, and supports more competitive bids in storage auctions. While the initial phase allowed up to 40% capex support, the sharp decline in battery prices through FY25 enabled the government to rationalize assistance to

~30%, thereby extending coverage to a larger capacity base within the same fiscal allocation. The scheme itself has evolved from an initial target of 4GWh to 13.2GWh, and subsequently to a significantly larger 30GWh during the second tranche, materially strengthening India's medium-term BESS pipeline and reducing system-level storage costs. Disbursement in VGF Tranche I occurs in five stages: 10% at financial closure, 45% at commissioning, followed by 15% annually over three years post-COD. Tranche II simplifies this to three stages: 20% at financial closure, 50% at commissioning, and the remaining 30% after one year of successful operation. Projects in Tranche II must also be commissioned within 18 months of signing the BESS PPA, introducing a tighter execution timeline to ensure faster deployment.

Exhibit 36: VGF scheme to boost deployment

VGF Phase/Component	Capacity allocated (MWh)	VGF support	Budget outlay (Rs bn)
Original VGF Scheme (CY23)	4,000	Up to 40% of project capex (~Rs9.6mn/MWh)	37.6
Revised VGF Scheme (early-CY25)	13,200	Recalibrated to 30% of project cost as BESS cost declined sharply (~Rs2.7-4.6mn/MWh)	Same budgeted outlay of Rs37.6bn supported by lower battery prices
Market Component - Tranche I (NVVN)	1,000	Rs4.6mn/MWh or 40% of project cost whichever is lower	4.6
Market Component - Tranche II (SECI)	1,200	Rs2.7mn/MWh	3.2
State Component across 8 states	6,000	Rs2.7mn/MWh	16.2
CPSU Component (NTPC, NHPC, SJVN, etc)	5,000	Rs2.7mn/MWh	13.5
Second VGF tranche (Jun-25)	30,000 (25GWh for 15 states + 5GWh for NTPC)	Rs1.8mn/MWh	54.0

Source: Industry, Emkay Research

The expansion of VGF support from 4GWh to 13.2GWh, and now an additional 30GWh, combined with steadily declining BESS prices, reflects the improving economic viability of battery storage in India and strengthens the demand pipeline for domestic system integrators and manufacturers. However, the scheme has faced execution bottlenecks, with no disbursements in FY25 as no BESS project reached financial closure. This highlights an underlying risk: despite strong policy intent and substantial financial incentives, the actual materialization of projects hinges on developers' ability to secure funding, finalize EPC contracts, and progress to timely commissioning.

Exhibit 37: Announced BESS manufacturing capacity

Company	Battery Cell capacity (GWh)	Battery/Pack capacity (GWh)
Waaree Energies		20.0
Vikram Solar		5.0
CESC Green		5.0
Tata Group (Agratas)	20.0	-
Premier Energies	-	12.0
Kosol Energie	-	3.7
Amara Raja	16.0	5.0
Exide	12.0	1.5
Ola Electric	20.0	-
Reliance	10.0	40.0
Cygni Pvt	-	4.8
Rajesh Exports	5.0	-

Source: Company, Industry, Emkay Research

Waaree is setting up 20GWh of BESS manufacturing capacity by FY28; while current BESS realization is USD70-80/kwh, there could be policy support on the same going ahead, in terms of ALMMs, duty protection, etc. The company expects 18-20% sustainable margins in BESS. We have not built this into our FY28 estimates.

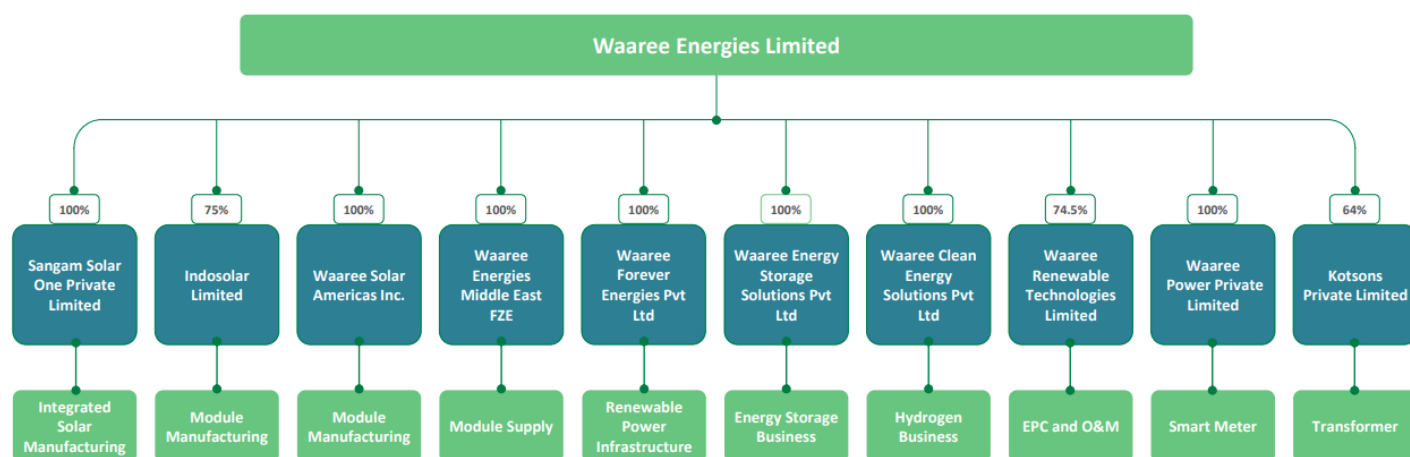
This report is intended for Team White Marque Solutions (team.emkay@whitemarqueresolutions)

Company background

Waaree Energies (Waaree) is India's largest solar module and cell manufacturer and a leading player in the renewable-energy sector. Founded in 1990 with headquarters in Mumbai, the company has expanded over the decades into a vertically integrated clean-energy enterprise with capabilities spanning solar module and cell manufacturing, EPC services, rooftop and solar-water-pumping solutions, as well as renewable power generation. Waaree entered the solar industry in CY07 with a 30MW module plant. The company operates two listed subsidiaries: Waaree Renewable Technologies (WRTL), focused on EPC and O&M services, and Indosolar, engaged in solar module manufacturing.

Waaree's manufacturing base of 18.7GW (as of Sep-25 end) is primarily centered in Gujarat across its facilities in Surat, Tumb, Nandigram, and Chikhli, and is further supplemented by a 1.3GW plant in Noida operated through Indosolar. The company has also expanded its global presence, having commissioned a 1.6GW solar-module facility in Texas, US, and acquiring a 1GW module manufacturing line from the bankrupt Meyer Burger in the US. In line with its backward-integration strategy, Waaree has established a 5.4GW solar-cell facility in Chikhli, further strengthening its position across the solar value chain.

Exhibit 38: Waaree's corporate structure











Source: Company, Emkay Research

The company generates majority of its revenue (~86%) from the sale of solar products (mainly modules up to FY25), while its EPC and O&M operations contribute ~10%. As of Sep-25, Waaree reported a robust order book of Rs470bn (~24 GW), with export orders accounting for 59.5% (largely to the US). In addition to its utility and large-scale clients, the company also caters to retail rooftop and MSME customers on a cash-and-carry basis.









Waaree is now pursuing large-scale expansion across the renewable-energy value chain. Its planned additions include ~8.1GW of new module manufacturing capacity (including the 1.6GW facility in the US), along with 10GW of solar cells, 10GW of ingot-wafer capacity, 4GW of inverters, and 20GWh of battery-storage systems. The company is also expanding into green hydrogen, with 1GW of electrolyzer capacity currently under development. In parallel, WEL has entered the IPP segment, having already signed PPAs for 413MW and secured connectivity for ~6.1GW.

Exhibit 39: Waaree's Board of Directors

 <p>Dr. Hitesh Chimanlal Doshi Chairman and MD</p> <ul style="list-style-type: none"> Founded the Group in 1990 and has been instrumental in driving its growth since inception 	 <p>Viren Chimanlal Doshi Whole Time Director</p> <ul style="list-style-type: none"> Associated with the Company since November 2007 Oversees EPC operations of the solar projects of Waaree 	 <p>Hitesh Pranjivan Mehta Whole Time Director</p> <ul style="list-style-type: none"> Associated with the Company since 2011 as Director of Waaree Group Extensive experience in solar, oil, and engineering industries 	 <p>Dr. Amit Paithankar Whole Time Director and CEO</p> <ul style="list-style-type: none"> Joined the Company in March 2024 Previously associated with Emerson Electric as MD of South Asia
 <p>Rajender Mohan Malla Independent Director</p> <ul style="list-style-type: none"> Previously associated with SIDBI Venture Capital, IDBI Capital and IDBI AMC MBA from the University of Delhi 	 <p>Richa Manoj Goyal Independent Director</p> <ul style="list-style-type: none"> Currently the Managing Partner of the law firm Richa Goyal and Associates Practising Company Secretary and certified trademarks agent 	 <p>Rajinder Singh Loona Independent Director</p> <ul style="list-style-type: none"> Managing Partner at Alliance Law, previously served as Director (Law) in SEBI Corporate lawyer with 40+ years experience in the securities market, finance, infrastructure, real estate, and regulatory advice 	 <p>Mahesh Chhabria Independent Director</p> <ul style="list-style-type: none"> Former Managing Director at Kirloskar Industries Ltd Associate member of the Institute of Chartered Accountants of India

Source: Company, Emkay Research

Exhibit 40: Waaree's Key Managerial Personnel

 <p>Dr. Amit Paithankar Whole Time Director and CEO</p> <ul style="list-style-type: none"> Previously associated with Emerson Electric as MD of South Asia 	 <p>Sonal Shrivastava Chief Financial Officer</p> <ul style="list-style-type: none"> Previously associated with Vedanta as CFO 	 <p>Sunil Rath Exec. Director, Sales</p> <ul style="list-style-type: none"> Responsible for overseeing the sales functions Previously associated with Vikram Solar Ltd 	 <p>Jignesh Rathod Director, Operations</p> <ul style="list-style-type: none"> Responsible for overseeing the operational functions at the various factories of the Company
 <p>Shyam Ragupathy COO, Battery</p> <ul style="list-style-type: none"> 25 years of industry expertise with Elest Pvt Ltd, Rajesh Export Ltd., Indo National Ltd etc. 	 <p>Anuj Sharma CEO, Hydrogen</p> <ul style="list-style-type: none"> 27+ years of industry expertise with experience at Linde Malaysia, Praxair India 	 <p>Pawan Agarwal CEO, Infrastructure</p> <ul style="list-style-type: none"> Previously associated with Azure Power, Yes Bank, Crisil, etc. 	 <p>Abhishek Pareek Group Head Finance</p> <ul style="list-style-type: none"> Previously associated with Shubhalakshmi Polyesters Limited as CFO

Source: Company, Emkay Research

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ESG

Waaree targets 100% renewable energy and net-zero Scope 1 & 2 emissions by CY30, and full value-chain net-zero (Scope 3) by CY40. The company embeds circular-economy principles, prioritizes suppliers with low-carbon footprints, and enhances energy efficiency through low-GWP refrigerants, recycling initiatives, EV-based material handling, and ongoing R&D for high-efficiency modules. In FY25, the company avoided 210tCO_{2e}, achieved 535MWh renewable-energy consumption, saved 25,000kl of water through reuse and wastewater-management initiatives, and maintained zero hazardous waste to landfill. It also became the first Indian solar company to secure an EPD certification, reinforcing its commitment to transparent environmental performance. Its environmental initiatives, ranging from emission reduction and energy conservation to responsible water and waste management, are all aligned with the company's long-term Net Zero ambition.

Social and Governance

Waaree's social initiatives remain aligned with the UN-SDGs, focusing on healthcare access, rural skill development, and education partnerships. In FY25, it delivered extensive training (29,549 training hours, including thousands of safety sessions), supported a workforce of over 8,500 employees and workers, and reported zero cases of sexual harassment, underscoring a strong safety and inclusion culture. Governance practices are anchored in a strict Code of Conduct, responsible sourcing, cybersecurity, and a robust whistle-blower mechanism with direct oversight from the Audit Committee. The company also earned the EcoVadis Gold Medal, placing it among the top 5% of companies globally for ESG excellence, and remains aligned with SBTi and UN-SDG frameworks to guide long-term sustainable growth.

Key risks

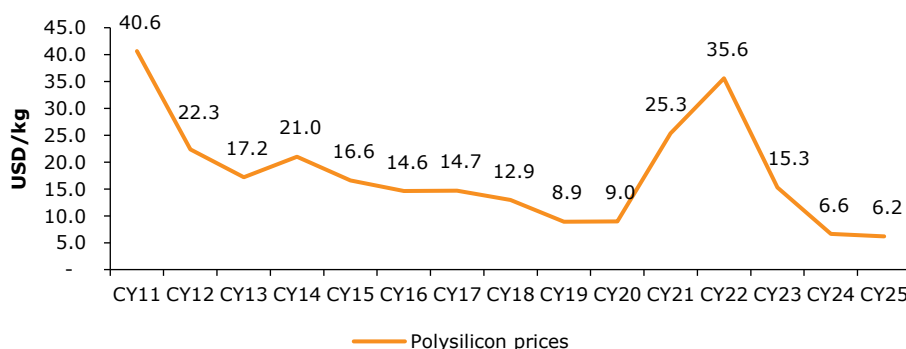
- **Volatility in raw material costs:** Key raw materials such as polysilicon, wafers, and EVA films are subject to global price volatility, and sharp rises in input costs or fluctuations in solar-grade silicon availability could pressure profitability, particularly if competitive market conditions restrict the ability to pass on costs to customers.
- **Competitive pressure:** The global and domestic solar industry is becoming increasingly competitive, driven by aggressive capacity expansions. Oversupply can depress module prices, compress margins, and impact order-book realizations. Competitors benefiting from lower production costs or government incentives may intensify pricing pressures further.
- **Regulatory and policy risk:** The company's growth is influenced by Indian government policies such as DCR, ALMM, import duties, and renewable energy incentives (PLIs). Sudden changes in policy, delays in subsidy disbursements, or revisions in renewable energy tenders can impact project economics, order inflows, and overall financial performance. Potential changes in US policies related to the Inflation Reduction Act or tariff measures on Indian exports could dent realizations.
- **Project execution risk:** The company's large-scale expansion across multiple verticals like modules, cells, ingot-wafer, BESS, inverters, green hydrogen, and renewable infrastructure carries execution, stabilization, and integration challenges. Delays in project completion, capacity ramp-up difficulties, or logistical issues may impact revenue recognition and profitability. Operational disruptions or supply-chain bottlenecks can increase costs, affect timelines, and reduce client confidence.
- **Technological and innovation risk:** Rapid technological evolution in the solar industry, including higher-efficiency modules, new module technologies, and integrated energy-storage solutions, is crucial for competitiveness. Failure to innovate or adopt these advancements could reduce market share and limit growth potential.
- **Foreign exchange and global market risk:** For exports and imports of raw material, Waaree is exposed to currency fluctuations, which are likely to affect margins. Volatility in forex would increase input costs or reduce export competitiveness.

Annexure

Reduction in costs: a boon for rapid development of the PV industry globally

Over the past decade, the polysilicon cost stack has undergone a prolonged structural decline on a per-watt basis, driven by scale effects, process improvements, manufacturing learning curves, and aggressive capacity expansion in China. These dynamics pushed module, ingot/wafer, and cell prices to multi-year lows by CY23–early CY24. Polysilicon prices declined 85%, from USD40.6/kg in CY11 to USD6.2/kg in YTD-CY25.

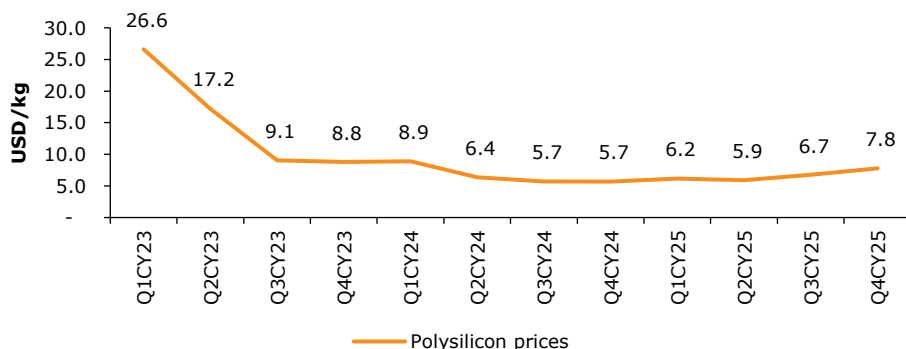
Exhibit 41: Polysilicon prices saw a spike in CY22, but have largely been on a downtrend



Source: Bloomberg, Emkay Research

However, CY25 marked a shift from a broadly deflationary environment to one characterized by elevated short-term volatility. Polysilicon spot prices rebounded sharply in early to mid-CY25, largely owing to policies and coordinated capacity rationalization in China (Anti-Involution), utilization curtailment and tightened traceability, and tariff and regulatory requirements. Such constraints tightened supply, and the resulting price increases are expected to be transmitted (albeit with a lag) through wafers and cells into module ASPs.

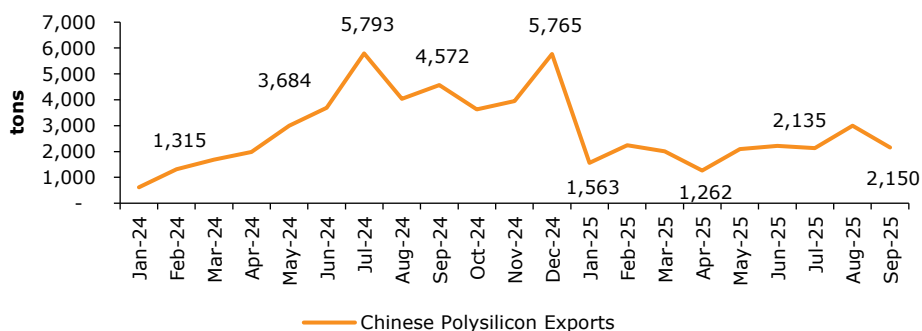
Exhibit 42: Polysilicon prices saw an increase in H2CY25 owing to China Anti-Involution



Source: Bloomberg, Emkay Research

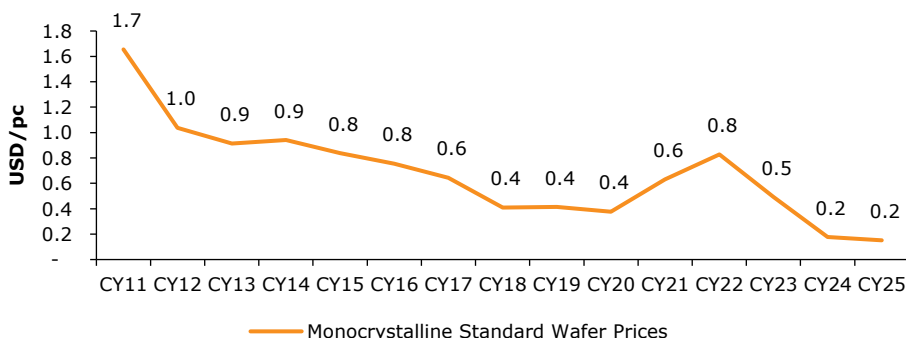
China announced draft measures, proposing to shut down polysilicon producers that fail to meet upgraded energy-consumption thresholds. Once enacted, plants unable to achieve the baseline of 6.4kgce/kg will face compliance deadlines; those still unable to meet the stricter 5.5kgce/kg standard after upgrades will be forced to shut down. Post-rationalization, China's effective polysilicon capacity is expected to fall to 2.4mtpa, down 16.4% from CY24-end levels. In H1CY25, Chinese polysilicon exports declined 30% YoY, driving spot prices up to USD 6.7/kg as of Sep-25 compared to USD5.7/kg at CY24-end.

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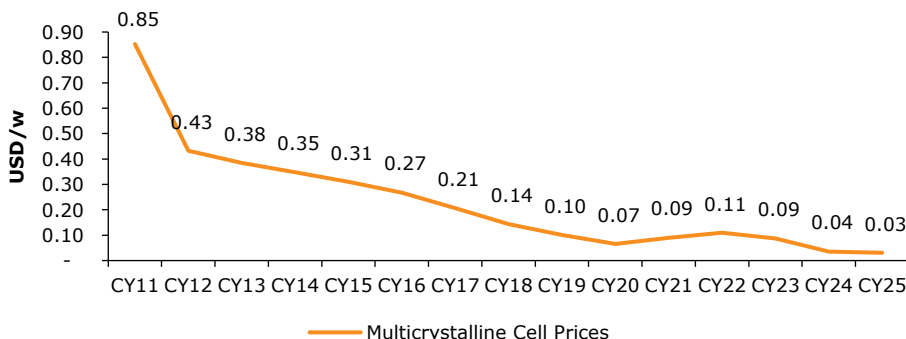
Exhibit 43: Chinese Polysilicon exports declined in CY25 owing to China Anti-Involution


Source: Bloomberg, Emkay Research

As ingot and wafer manufacturing scaled up, wafer ASPs declined, with the industry shifting to thinner wafers with a bigger diameter and lower kerf loss, resulting in lower per-watt PV consumption and lower wafer prices per watt. Prices fell further with oversupply and deepening backward integration. Cell cost per watt also followed the same trajectory, on higher efficiencies and scale. As technology developed, cell pricing split, with legacy PERC cells remaining commoditized and lower-priced, while TopCon/HJT cells commanded a premium on a per-piece basis, but delivered superior wattage, resulting in lower module-level cost per watt. Lack of large-scale domestic cell capacity has led to modules being assembled with locally produced cells at least 1.5x more expensive than those using imported cells, and ~2.8x costlier than traded Chinese modules. However, Indian cell-based modules are still priced below US-manufactured modules, which thereby supports export viability.

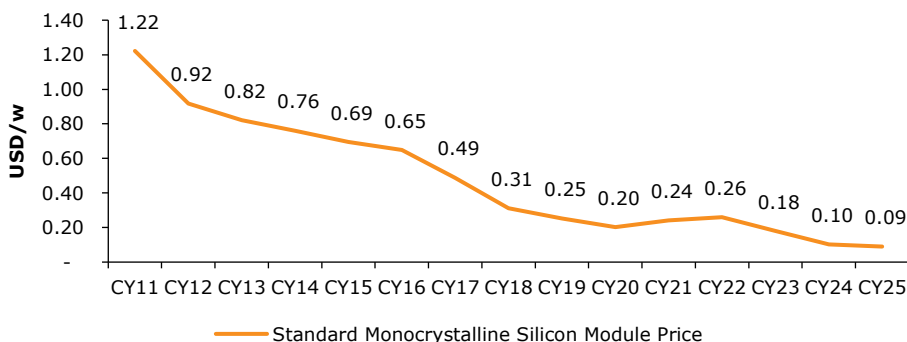
Exhibit 44: Wafer prices continue to slide


Source: Bloomberg, Emkay Research

Exhibit 45: Cell prices on a downtrend


Source: Bloomberg, Emkay Research

Module prices subsequently dropped sharply, supported by falling upstream costs, improved LCOE economics and global manufacturing scale-up. Overall, module ASPs fell ~90% from USD1.2/W in CY11 to a multi-year low of USD0.1/W by CY24-end. As polysilicon prices firmed up and wafer availability tightened in early-CY25, module ASPs stabilized and saw modest increases in select markets.

Exhibit 46: Module prices have followed cell prices

Source: Bloomberg, Emkay Research

Dependence on imported polysilicon and wafers remains a major bottleneck for Indian manufacturers, restricting long-term competitiveness and autonomy in the global solar value chain. However, with DCR and ALMM requirements in place, the share of domestically manufactured components is set to rise. Further, to support local manufacturing, BCD was imposed on modules and cells, effective Apr-22, thereby reducing the price gap with imports and strengthening demand for Indian-made modules.

Polysilicon prices rebounded through CY25 as China's capacity rationalization, energy-efficiency mandates, and industry-wide production cuts tightened effective supply. This has been passed with a lag into wafer, cell, and module ASPs.

India has seen significant development in renewable energy over the last decade

Exhibit 47: Cumulative RE installed capacity

Year	Renewables (RE) (GW)			Total (RE+NRE) (GW)	Growth			Share	
	Large hydro	RES	Total		RES	RE	Total	RES	RE
FY15	41.27	40.04	81.31	275.99				14.51%	29.46%
FY16	42.78	47.09	89.87	306.33	17.61%	10.53%	10.99%	15.37%	29.34%
FY17	44.48	58.56	103.04	328.15	24.36%	14.65%	7.12%	17.85%	31.40%
FY18	45.29	70.65	115.94	345.63	20.65%	12.52%	5.33%	20.44%	33.54%
FY19	45.40	79.41	124.81	357.87	12.40%	7.65%	3.54%	22.19%	34.88%
FY20	45.70	88.26	133.96	371.34	11.14%	7.33%	3.76%	23.77%	36.07%
FY21	46.21	95.80	142.01	383.52	8.54%	6.01%	3.28%	24.98%	37.03%
FY22	46.72	109.89	156.61	399.50	14.71%	10.28%	4.17%	27.51%	39.20%
FY23	46.85	125.16	172.01	416.06	13.90%	9.83%	4.15%	30.08%	41.34%
FY24	46.93	143.64	190.57	441.97	14.77%	10.79%	6.23%	32.50%	43.12%
FY25	47.73	172.37	220.10	475.21	20.00%	15.50%	7.52%	36.27%	46.32%

Source: GoI, Emkay Research; Note: RES comprises Solar, Wind, Bio-Power, and small Hydro Power

Exhibit 48: Nationwide energy generation in India

Year	Renewables (RE) (BU)			Total (RE+NRE) (BU)	Growth			Share	
	Large hydro	RES	Total		RES	RE	Total	RES	RE
FY15	129.24	61.72	190.96	1,105.38				5.58%	17.28%
FY16	121.38	65.78	187.16	1,168.37	6.58%	-1.99%	5.70%	5.63%	16.02%
FY17	122.38	81.55	203.93	1,236.08	23.97%	8.96%	5.80%	6.60%	16.50%
FY18	126.10	101.84	227.94	1,303.34	24.88%	11.77%	5.44%	7.81%	17.49%
FY19	134.89	126.76	261.65	1,371.68	24.47%	14.79%	5.24%	9.24%	19.08%
FY20	155.77	138.34	294.11	1,383.33	9.14%	12.41%	0.85%	10.00%	21.26%
FY21	150.30	147.25	297.55	1,373.09	6.44%	1.17%	-0.74%	10.72%	21.67%
FY22	151.63	170.91	322.54	1,484.36	16.07%	8.40%	8.10%	11.51%	21.73%
FY23	162.10	203.55	365.65	1,617.58	19.10%	13.37%	8.97%	12.58%	22.60%
FY24	134.05	225.84	359.89	1,734.12	10.95%	-1.58%	7.20%	13.02%	20.75%
FY25	148.63	255.01	403.64	1,824.12	12.92%	12.16%	5.19%	13.98%	22.13%

Source: GoI, Emkay Research

Exhibit 49: Cumulative installed capacity under RES (solar and non-solar)

Year	Solar (GW)	Non-Solar (GW)	Total RES capacity (GW)
FY15	3.99	36.05	40.04
FY16	7.12	39.97	47.09
FY17	12.78	45.78	58.56
FY18	22.35	48.30	70.65
FY19	29.10	50.31	79.41
FY20	35.60	52.66	88.26
FY21	41.24	54.56	95.80
FY22	54.00	55.89	109.89
FY23	66.78	58.38	125.16
FY24	81.81	61.83	143.64
FY25	105.65	66.72	172.37

Source: GoI, Emkay Research

Exhibit 50: Renewable Energy (RES) generation in India (solar and non-solar)

Year	Solar (BU)	Non-Solar (BU)	Total RES capacity (BU)
FY15	4.60	57.12	61.72
FY16	7.45	58.33	65.78
FY17	13.50	68.05	81.55
FY18	25.80	76.04	101.84
FY19	39.27	87.49	126.76
FY20	50.13	88.21	138.34
FY21	60.40	86.85	147.25
FY22	73.48	97.43	170.91
FY23	102.01	101.54	203.55
FY24	155.98	69.86	225.84
FY25	144.15	110.86	255.01

Source: GoI, Emkay Research

Exhibit 51: Top-5 states in RE installed capacity as of FY25-end

State	Capacity (GW)	Share
Gujarat	33.39	15.17%
Rajasthan	34.14	15.51%
Tamil Nadu	25.24	11.47%
Karnataka	23.92	10.87%
Maharashtra	22.40	10.18%
Remaining states	81.01	36.81%
Total	220.10	

Source: GoI, Emkay Research

Global renewable energy has experienced remarkable growth over the past decade

Exhibit 52: Global cumulative electricity installed capacity under RE and non-RE

Year	Capacity (GW)			Growth			Share	
	RE	Non-RE	Total	RE	Non-RE	Total	RE	Non-RE
CY15	1,849.07	4,418.96	6,268.03				29.50%	70.50%
CY16	2,017.39	4,532.58	6,549.97	9.10%	2.57%	4.50%	30.80%	69.20%
CY17	2,183.98	4,619.70	6,803.68	8.26%	1.92%	3.87%	32.10%	67.90%
CY18	2,354.05	4,757.88	7,111.93	7.79%	2.99%	4.53%	33.10%	66.90%
CY19	2,538.22	4,818.94	7,357.16	7.82%	1.28%	3.45%	34.50%	65.50%
CY20	2,808.10	4,885.32	7,693.42	10.63%	1.38%	4.57%	36.50%	63.50%
CY21	3,072.58	4,949.82	8,022.40	9.42%	1.32%	4.28%	38.30%	61.70%
CY22	3,375.10	5,020.67	8,395.77	9.85%	1.43%	4.65%	40.20%	59.80%
CY23	3,860.90	5,117.94	8,978.84	14.39%	1.94%	6.94%	43.00%	57.00%
CY24	4,442.76	5,173.60	9,616.36	15.07%	1.09%	7.10%	46.20%	53.80%

Source: GoI, Emkay Research

This report is intended for Team White Marquee Solutions. (team.emkay@whitemarquesolutions.com)

Exhibit 53: Global energy generation under RE and Non-RE

Year	Energy Generation (TWh)			Growth			Share	
	RE	Non-RE	Total	RE	Non-RE	Total	RE	Non-RE
CY15	5,516.41	18,784.96	24,301.37				22.70%	77.30%
CY16	5,871.13	19,112.40	24,983.53	6.43%	1.74%	2.81%	23.50%	76.50%
CY17	6,237.92	19,432.53	25,670.45	6.25%	1.67%	2.75%	24.30%	75.70%
CY18	6,633.83	20,008.06	26,641.89	6.35%	2.96%	3.78%	24.90%	75.10%
CY19	6,997.01	20,123.18	27,120.19	5.47%	0.58%	1.80%	25.80%	74.20%
CY20	7,464.89	19,581.81	27,046.70	6.69%	-2.69%	-0.27%	27.60%	72.40%
CY21	7,883.43	20,474.23	28,357.66	5.61%	4.56%	4.85%	27.80%	72.20%
CY22	8,457.27	20,705.73	29,163.00	7.28%	1.13%	2.84%	29.00%	71.00%
CY23	8,928.49	20,932.68	29,861.17	5.57%	1.10%	2.39%	29.90%	70.10%

Source: GoI, Emkay Research

Exhibit 54: Global cumulative installed capacity under RE

Year	Solar (GW)	Non-Solar (GW)	Total RE capacity (GW)
CY15	225.72	1,623.35	1,849.07
CY16	297.40	1,719.99	2,017.39
CY17	391.50	1,792.48	2,183.98
CY18	486.53	1,867.52	2,354.05
CY19	588.69	1,949.53	2,538.22
CY20	719.66	2,088.44	2,808.10
CY21	862.99	2,209.59	3,072.58
CY22	1,056.37	2,318.73	3,375.10
CY23	1,413.47	2,447.43	3,860.90
CY24	1,866.31	2,576.45	4,442.76

Source: GoI, Emkay Research

Exhibit 55: Global energy generation under RE

Year	Solar (TWh)	Non-Solar (TWh)	Total RE capacity (TWh)
CY15	252.30	5,264.11	5,516.41
CY16	324.83	5,546.30	5,871.13
CY17	435.60	5,802.32	6,237.92
CY18	560.27	6,073.56	6,633.83
CY19	691.60	6,305.41	6,997.01
CY20	841.86	6,623.03	7,464.89
CY21	1,036.83	6,846.60	7,883.43
CY22	1,297.21	7,160.06	8,457.27
CY23	1,623.75	7,304.74	8,928.49

Source: GoI, Emkay Research

Exhibit 56: Region-wise RE and non-RE installed capacity

Year/(TWh)	Asia		Europe		North America		South America		Others	
	RE	Non-RE	RE	Non-RE	RE	Non-RE	RE	Non-RE	RE	Non-RE
CY15	722.70	1,934.29	464.01	662.23	307.56	973.94	182.67	100.98	172.13	747.53
CY16	813.29	2,030.46	487.32	648.62	331.18	972.68	203.94	106.00	181.66	774.82
CY17	920.35	2,117.11	511.37	640.36	347.62	974.13	210.45	109.87	194.19	778.22
CY18	1,025.17	2,219.04	535.54	644.06	365.96	989.45	217.05	112.81	210.33	792.52
CY19	1,125.19	2,274.18	572.27	627.46	390.52	979.73	223.60	112.64	226.64	824.94
CY20	1,301.58	2,344.30	606.09	613.41	422.33	971.50	232.69	117.22	245.41	838.90
CY21	1,456.36	2,406.66	647.10	606.97	460.82	970.30	247.09	118.97	261.21	846.92
CY22	1,630.47	2,476.51	705.19	600.72	490.07	977.21	267.89	117.56	281.48	848.68
CY23	1,961.27	2,547.40	778.32	596.80	526.00	985.49	290.34	117.44	304.97	870.80
CY24	2,374.47	2,634.96	850.25	562.13	571.52	981.52	312.84	117.48	333.68	877.52

Source: GoI, Emkay Research

Exhibit 57: Region-wise RE and non-RE electricity generation

Year/(TWh)	Asia		Europe		North America		South America		Others	
	RE	Non-RE	RE	Non-RE	RE	Non-RE	RE	Non-RE	RE	Non-RE
CY15	2,033.20	8,287.61	1,174.08	2,576.97	1,038.16	4,258.57	733.59	436.41	537.38	3,225.40
CY16	2,217.73	8,653.50	1,195.80	2,588.38	1,117.83	4,179.94	764.90	406.46	574.87	3,284.12
CY17	2,429.95	9,032.08	1,210.84	2,584.90	1,211.80	4,056.90	798.04	382.49	587.29	3,376.16
CY18	2,648.06	9,611.48	1,298.06	2,497.44	1,234.09	4,226.49	827.98	354.85	625.64	3,317.80
CY19	2,865.40	9,813.36	1,331.21	2,408.14	1,255.47	4,132.81	839.94	346.42	704.99	3,422.45
CY20	3,099.30	9,868.48	1,450.76	2,167.10	1,335.20	3,900.88	843.00	334.37	736.63	3,310.98
CY21	3,427.10	10,447.80	1,472.19	2,283.40	1,385.42	3,963.69	841.81	388.91	756.91	3,390.43
CY22	3,751.50	10,567.20	1,460.44	2,145.58	1,495.77	4,003.38	951.58	315.50	797.98	3,674.07
CY23	4,007.63	11,058.60	1,626.36	1,893.90	1,452.10	4,006.92	1,008.70	304.71	833.70	3,668.55

Source: GoI, Emkay Research

Exhibit 58: Top-10 countries in RE installed capacity as of CY24-end

Country	RE installed capacity (GW)	Contribution to the total global RE installed capacity
China	1,817.96	40.92%
USA	427.89	9.63%
Brazil	213.86	4.81%
India	204.48	4.60%
Germany	178.65	4.02%
Japan	130.41	2.94%
Canada	109.50	2.46%
Spain	88.50	1.99%
France	74.34	1.67%
Italy	72.11	1.62%
World	4,442.76	

Source: GoI, Emkay Research

This report is intended for Team White Marque Solutions (team.emkay@whitemarqueresolutions)

Waaree Energies: Consolidated Financials and Valuations

Profit & Loss					
Y/E March (Rs mn)	FY24	FY25	FY26E	FY27E	FY28E
Revenue	113,976	144,445	254,210	319,283	367,268
Revenue growth (%)	68.8	26.7	76.0	25.6	15.0
EBITDA	15,744	27,216	58,468	72,848	88,131
EBITDA growth (%)	88.6	72.9	114.8	24.6	21.0
Depreciation & Amortization	2,768	4,025	9,080	12,514	19,657
EBIT	12,976	23,192	49,388	60,335	68,474
EBIT growth (%)	93.5	78.7	113.0	22.2	13.5
Other operating income	264	690	688	2,436	4,385
Other income	2,352	4,016	6,504	7,511	6,332
Financial expense	1,399	1,521	3,352	5,976	3,570
PBT	13,929	25,687	52,540	61,870	71,236
Extraordinary items	3,413	(40)	0	0	0
Taxes	4,598	6,365	13,240	15,591	17,952
Minority interest	(372)	(607)	(1,500)	(1,950)	(2,477)
Income from JV/Associates	-	-	-	-	-
Reported PAT	12,372	18,674	37,800	44,329	50,808
PAT growth (%)	156.3	50.9	102.4	17.3	14.6
Adjusted PAT	9,863	18,704	37,800	44,329	50,808
Diluted EPS (Rs)	34.0	64.5	130.4	152.9	175.2
Diluted EPS growth (%)	98.1	89.6	102.1	17.3	14.6
DPS (Rs)	0	0	6.8	8.0	9.2
Dividend payout (%)	0	0	5.2	5.2	5.2
EBITDA margin (%)	13.8	18.8	23.0	22.8	24.0
EBIT margin (%)	11.4	16.1	19.4	18.9	18.6
Effective tax rate (%)	33.0	24.8	25.2	25.2	25.2
NOPLAT (pre-IndAS)	8,692	17,445	36,942	45,130	51,218
Shares outstanding (mn)	290	290	290	290	290

Source: Company, Emkay Research

Cash flows					
Y/E March (Rs mn)	FY24	FY25	FY26E	FY27E	FY28E
PBT (ex-other income)	11,577	21,671	46,036	54,359	64,904
Others (non-cash items)	6,406	4,515	6,504	7,511	6,332
Taxes paid	(3,351)	(7,428)	(13,240)	(15,591)	(17,952)
Change in NWC	5,916	11,574	9,589	10,815	5,033
Operating cash flow	23,050	31,582	54,818	68,072	75,212
Capital expenditure	(13,374)	(32,726)	(50,000)	(100,000)	(20,000)
Acquisition of business	0	0	0	0	0
Interest & dividend income	1,249	2,983	6,504	7,511	6,332
Investing cash flow	(33,403)	(68,084)	(46,472)	(94,268)	(14,990)
Equity raised/(repaid)	10,035	35,080	1,510	1,967	2,477
Debt raised/(repaid)	416	6,221	65,000	605	(65,000)
Payment of lease liabilities	(146)	(230)	130	136	143
Interest paid	(1,207)	(714)	(3,352)	(5,976)	(3,570)
Dividend paid (incl tax)	(5)	0	(1,965)	(2,314)	(2,664)
Others	21,687	35,831	0	0	0
Financing cash flow	30,780	76,188	61,323	(5,581)	(68,615)
Net chg in Cash	20,428	39,687	69,669	(31,777)	(8,393)
OCF	23,050	31,582	54,818	68,072	75,212
Adj. OCF (w/o NWC chg.)	17,135	20,009	45,228	57,257	70,179
FCFF	9,677	(1,144)	4,818	(31,928)	55,212
FCFE	9,526	318	7,970	(30,392)	57,975
OCF/EBITDA (%)	146.4	116.0	93.8	93.4	85.3
FCFE/PAT (%)	77.0	1.7	21.1	(68.6)	114.1
FCFF/NOPLAT (%)	111.3	(6.6)	13.0	(70.7)	107.8

Source: Company, Emkay Research

Balance Sheet					
Y/E March (Rs mn)	FY24	FY25	FY26E	FY27E	FY28E
Share capital	2,630	2,873	2,883	2,900	2,900
Reserves & Surplus	38,249	91,919	129,254	173,219	223,840
Net worth	40,878	94,792	132,137	176,119	226,740
Minority interests	607	1,161	2,661	4,611	7,087
Non-current liab. & prov.	371	413	413	413	413
Total debt	3,173	9,395	74,395	75,000	10,000
Total liabilities & equity	60,258	117,567	227,710	278,367	269,176
Net tangible fixed assets	14,372	40,383	61,302	97,630	177,973
Net intangible assets	63	63	63	63	63
Net ROU assets	-	-	-	-	-
Capital WIP	13,414	18,841	38,841	90,000	10,000
Goodwill	63	63	63	63	63
Investments [JV/Associates]	0	0	0	0	0
Cash & equivalents	38,503	78,125	147,826	116,083	107,726
Current assets (ex-cash)	41,628	53,443	95,429	119,857	137,596
Current Liab. & Prov.	52,879	79,907	127,351	159,819	180,911
NWC (ex-cash)	(11,252)	(26,464)	(31,922)	(39,962)	(43,316)
Total assets	60,258	117,567	227,710	278,367	269,176
Net debt	(35,330)	(68,730)	(73,431)	(41,083)	(97,726)
Capital employed	60,258	117,567	227,710	278,367	269,176
Invested capital	3,247	14,046	29,507	57,795	134,784
BVPS (Rs)	141.0	326.9	455.7	607.3	781.9
Net Debt/Equity (x)	(0.9)	(0.7)	(0.6)	(0.2)	(0.4)
Net Debt/EBITDA (x)	(2.2)	(2.5)	(1.3)	(0.6)	(1.1)
Interest coverage (x)	11.0	17.9	16.7	11.4	21.0
RoCE (%)	46.4	36.3	35.5	29.2	29.9

Source: Company, Emkay Research

Valuations and key Ratios					
Y/E March	FY24	FY25	FY26E	FY27E	FY28E
P/E (x)	66.6	45.7	21.9	18.8	16.4
EV/CE(x)	17.7	7.5	3.6	3.1	3.0
P/B (x)	20.4	8.8	6.3	4.7	3.7
EV/Sales (x)	6.9	5.5	3.0	2.5	2.0
EV/EBITDA (x)	50.1	28.9	12.9	10.9	8.3
EV/EBIT(x)	60.8	33.9	15.3	13.1	10.7
EV/IC (x)	242.8	55.9	25.6	13.7	5.5
FCFF yield (%)	1.2	(0.1)	0.6	(4.0)	7.5
FCFE yield (%)	1.2	-	1.0	(3.7)	7.0
Dividend yield (%)	0	0	0.2	0.3	0.3
DuPont-RoE split					
Net profit margin (%)	10.9	12.9	14.9	13.9	13.8
Total asset turnover (x)	2.7	1.6	1.5	1.3	1.3
Assets/Equity (x)	1.4	1.3	1.5	1.6	1.4
RoE (%)	41.8	27.5	33.3	28.8	25.2
DuPont-RoIC					
NOPLAT margin (%)	7.6	12.1	14.5	14.1	13.9
IC turnover (x)	80.5	16.7	11.7	7.3	3.8
RoIC (%)	613.6	201.8	169.6	103.4	53.2
Operating metrics					
Core NWC days	(36.0)	(66.9)	(45.8)	(45.7)	(43.0)
Total NWC days	(36.0)	(66.9)	(45.8)	(45.7)	(43.0)
Fixed asset turnover	6.7	4.1	3.9	3.1	2.1
Opex-to-revenue (%)	9.3	10.6	15.0	15.0	15.0

Source: Company, Emkay Research

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