India

ADD *(Initiating coverage)*

Consensus ratings*:	Buy 4	Hold 1	Sell 1

Current price:	Rs1,781
Target price:	Rs2,644
Previous target:	NA
Up/downside:	48.5%
EIP Research / Consensus:	48.5%
Reuters:	
Bloomberg:	MTARTECH IN
Market cap:	US$656m
	Rs54,783m
Average daily turnover:	US$8.2m
	Rs682.7m
Current shares o/s:	30.8m
Free float:	63.0%

Source: Bloomberg

Source: Bloomberg

Price performance	1M	3M	12M
Absolute (%)	(0.5)	2.6	(7.8)
Relative (%)	(5.7)	(1.3)	(24.5)

Major shareholders	% held
Promoter Group	37.0
Nippon Life	5.4
ABSL	2.3

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MTAR Technologies Limited

Dawn of the fuel cell revolution

- MTAR Technologies is a precision machining company with exposure across niche sectors like fuel cells (for Bloom Energy), nuclear, defence and space.
- Rising power costs in the US due to grid problems, coupled with rising cost competitiveness of Bloom Energy, will result in significant tailwinds for MTAR.
- We value the stock at 45x FY26F EPS to arrive at our target price of Rs2,644. Initiate coverage on it with an ADD rating.

Renewables (solar/wind) is not the solution – it's fuel cells & nuclear

Renewable energy like solar and wind are intermittent and spiky i.e. they can come and go suddenly. This messes up with the grid, as while grid demands change slowly, the wind starts blowing and dies down with comparative suddenness. Batteries are a possible solution, but even the biggest utility battery packs are not really grid-scale. In fact, providing 100 hours of back-up for a single massive (1,000MW) coal plant would require 32,000t of lithium. In 2023, the global production of lithium stood at 180,000t. The only possible solution for this is fuel cells and nuclear. They both can store energy on-site and hence, are reliable. As long as you have natural gas/hydrogen powering a fuel cell or uranium powering a nuclear reactor, they will continue delivering power. Bloom Energy (the world's only commercial scale fuel cell manufacturer) and nuclear energy accounted for 70% of MTAR Technologies' (MTAR) FY24 revenue and this will be the biggest tailwind for the latter in the coming years.

MTAR's unique machining capabilities separates it from its peers

MTAR is one of the few machining companies (apart from Bharat Forge) having capabilities in both conventional and non-conventional machining. In non-conventional machining, the materials are removed using various techniques that do not require a sharp tool to carve out the design. MTAR, apart from conventional machining, has expertise in EDM (electronic discharge machining), which utilizes electrical energy to carve out metals from a workpiece. EDM is important for MTAR as it does ceramic machining for Bloom Energy's fuel cells, which can't be machined by conventional machining methods. This also allows MTAR to have a moat and expand into other difficult-to-machine materials.

We value MTAR at 45x FY26F EPS; initiate coverage with ADD rating

MTAR is likely to register a 41% topline growth over FY24-26F, with improvement in margins by roughly 500bp due to operating leverage kicking in. Moreover, going ahead, even if Bloom Energy (MTAR's largest client) misses its consensus revenue estimates for CY26F by 5%, it will only have a 10% negative PAT impact on MTAR, owing to its ramp-up in other revenue segments, thus providing a reasonable margin of safety. We expect MTAR to register an 80% PAT CAGR over FY24-26F and value the stock at 45x FY26F EPS of Rs59 to arrive at a target price of Rs2,644. Key downside risks include exposure to a single client (Bloom Energy) for almost 60% of its revenue.

Financial Summary	Mar-23A	Mar-24A	Mar-25F	Mar-26F	Mar-27F
Revenue (Rsm)	5,738	5,808	7,724	11,586	18,480
Operating EBITDA (Rsm)	1,540	1,127	1,694	2,855	4,546
Net Profit (Rsm)	1,034	561	963	1,810	3,059
Core EPS (Rs)	33.6	18.2	31.3	58.8	99.3
Core EPS Growth	69.9%	(45.7%)	71.6%	88.0%	69.0%
FD Core P/E (x)	52.69	97.10	56.60	30.10	17.81
DPS (Rs)	0.0	0.0	0.0	0.0	0.0
Dividend Yield	0.00%	0.00%	0.00%	0.00%	0.00%
EV/EBITDA (x)	36.12	49.59	33.14	19.74	12.41
P/FCFE (x)	(162.11)	110.51	691.30	489.04	210.30
Net Gearing	18.1%	20.7%	21.4%	19.6%	15.4%
P/BV (x)	8.79	8.06	7.05	5.71	4.33
ROE	18.1%	8.7%	13.3%	21.0%	27.6%
% Change In Core EPS Estimates					
InCred Research/Consensus EPS (x)					

SOURCE: INCRED RESEARCH, COMPANY REPORTS

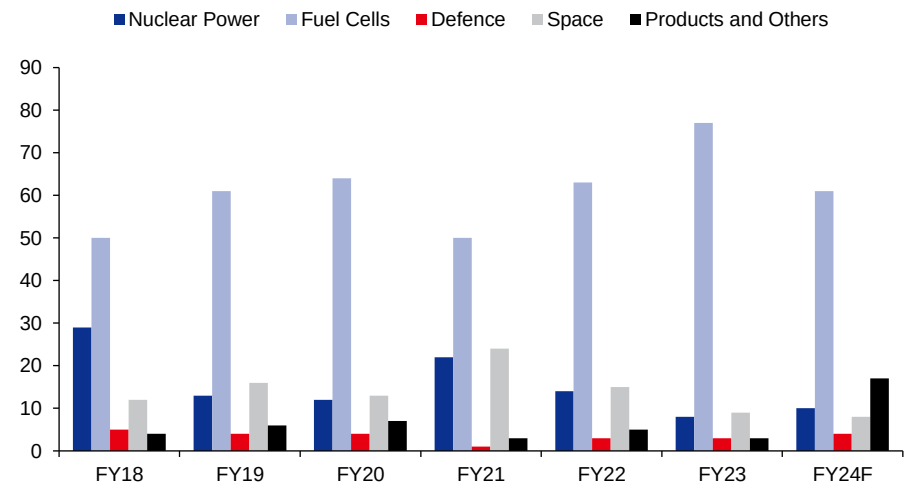
MTAR's precision machining capabilities in a niche space gives it unique entry barriers

MTAR caters to nuclear energy, clean energy, space and defence industries. These industries have very high barriers to entry with zero tolerance level, in the form of errors or defects. Hence, from client empanelment to first-time orders takes a significant amount of time - from three to five years. **Moreover, MTAR is one of the few precision machining companies which has capabilities in conventional and non-conventional machining (the only other company is Bharat Forge).** Conventional machining refers to a tool coming in direct contact with the workpiece to remove excess materials and shape the piece. With non-conventional machining, the materials are removed using various techniques that do not require a sharp tool to carve out the design. MTAR, apart from conventional machining, has expertise in EDM (electronic discharge machining), which utilizes electrical energy to carve out metals from a workpiece. In aerospace and other demanding industries, a single micron sometimes decides whether a part can be used or will end up as scrap. High-quality precision grinding machines can achieve microscopic tolerances and help manufacturers meet high customer requirements down to the µm (micro metre).

Clean energy to be the biggest growth driver for MTAR ›

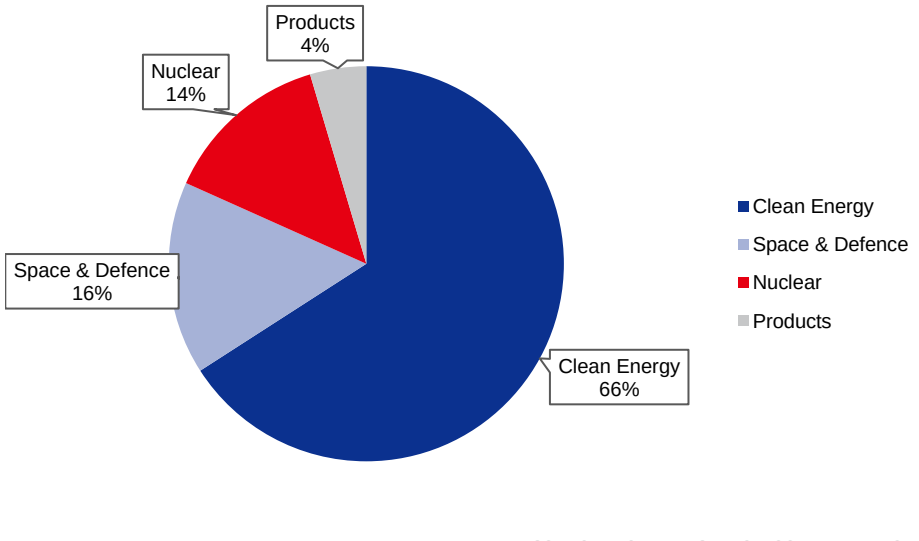
MTAR is engaged in the manufacture of mission-critical precision components with close tolerances (5-10 microns), and in critical assemblies. The company has exposure to clean energy, nuclear, space and defence sectors, with clean energy contributing more than 50% to its top line. In clean energy, the company caters to Bloom Energy, a solid oxide fuel cell (SOFC) manufacturer based in the US. Bloom Energy fuel cells, also called energy servers, are the only solution to the US grid transmission issues and we believe that in the coming years, they are going to be the biggest growth trigger for MTAR. Moreover, with MTAR's strong research pedigree, the company is continuously improving the percentage value addition it does for its clients, which further improves its position in the value chain.

Figure 1: Fuel cells dominate the revenue mix for MTAR



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 2: Current order book also has fuel cell as the largest contributor



SOURCE: INCRED RESEARCH, COMPANY REPORTS

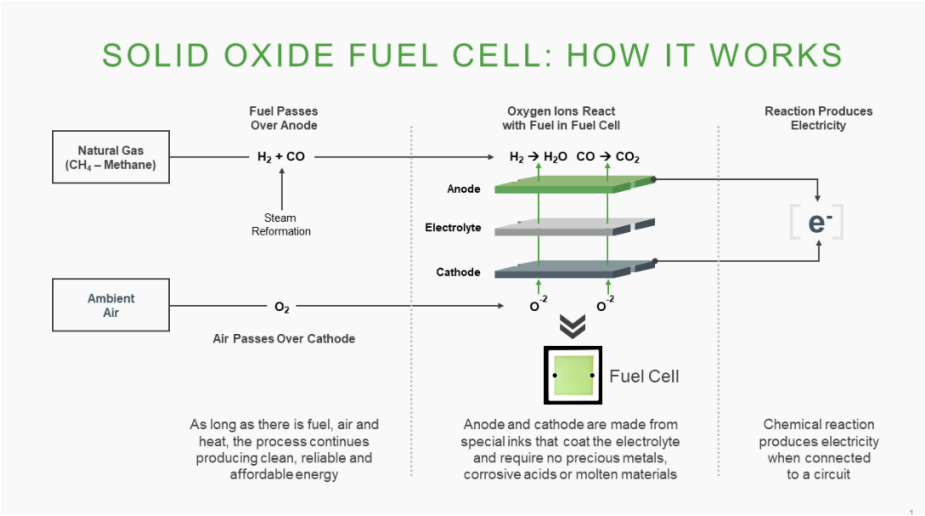
A fuel cell is more resilient than a normal battery

A fuel cell is like any other battery which generates power. However, there is a fundamental difference between a normal battery and a fuel cell. A normal battery, like for instance, a lithium-ion battery stores power and discharges it over a period. However, fuel cells use a continuous source of power, for example natural gas, hydrogen, or biogas. Hence, fuel cells are more resilient as they do not need replacement like normal batteries when their power is exhausted. As long as you have access to fuel, you have access to electricity – anytime, anywhere. Hence, they are very resilient in terms of power generation compared to batteries. However, their efficiency is lower when compared to normal batteries.

Science of fuel cells involve basic oxidation and reduction

In principle, the operation of a fuel cell can be explained as an electrochemical reaction. The basic components of a fuel cell are the anode, cathode, electrolyte, and a wire. In basic chemistry, oxidation is when a chemical element gains electrons whereas reduction is when a chemical element loses electrons. In simple terms, the anode is the site at which oxidation takes place in a fuel cell. Conversely, the cathode is the site at which reduction takes place. In a Solid Oxide Fuel Cell (SOFC), the electrolyte is a non-conducting ceramic material that performs well when heated to 750 to 1,000 degrees Celsius, whereas in other fuels the electrolytes are in a liquid state. Although a SOFC can run on a variety of hydrocarbon fuels including methane, the hydrocarbon fuels are catalytically reformed so that the gases flowing into a SOFC are CO, H2, and O2. On the output side you get water, carbon dioxide and energy.

Figure 3: A basic diagram explaining the working of a fuel cell

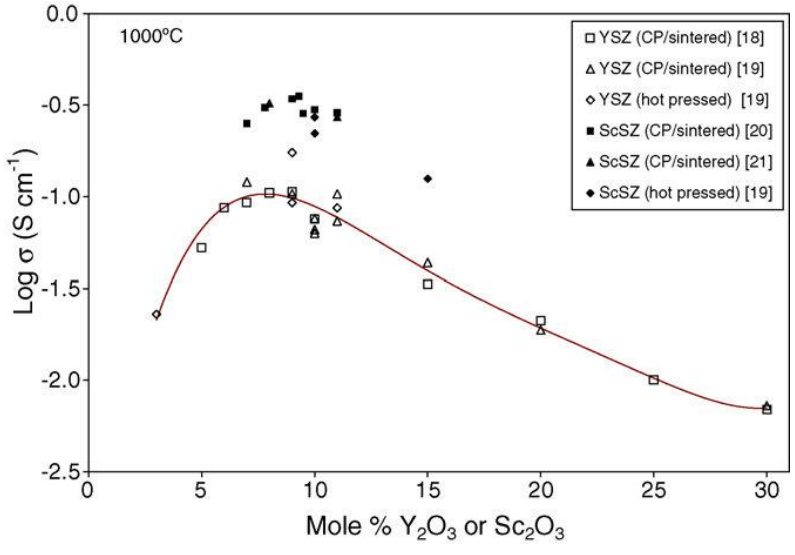


SOURCE: INCRED RESEARCH, BLOOM ENERGY

Ceramic electrolyte is the most important part of SOFC and that is where Bloom Energy has its USP »

SOFC works the same way as most fuel cells do but instead of a solvent electrolyte, it uses a solid electrolyte. The material used for the electrolyte is very important as it defines the efficiency and the performance of the SOFC. SOFC functions at very high temperatures, in the range of 700-1,000 degrees. The high temperature results in high costs as the materials that make up the system need to have high tolerance for high temperature conditions. The benefit, on the other hand, of the high temperature is that there is no need for any kind of catalyst to trigger/speed up the reaction. Hence, the material used for the ceramic electrolyte becomes very important. Usually, the electrolyte is a ceramic material; most commonly it comes in the form of Yttria Stabilized Zirconia (YSZ) or as Scandia Stabilized Zirconia (ScSZ). Bloom Energy fuel cell uses Scandia Stabilized Zirconia for its solid oxide electrolytes. **In fact, Bloom Energy is sometimes quoted as being the largest scandium consumer in the world. Scandia costs have ranged from US$1,000-5,000/kg. The truth about solid oxide fuel cells is that we've not explored the entire space of possible and potential materials. However, there's reasonable theoretical evidence to say that Scandia-based systems should be the most efficient.**

Figure 4: The graph below denotes conductivity of various electrolytes for SOFC; Scandia-based materials (ScSZ) have the highest conductivity and thus, efficiency

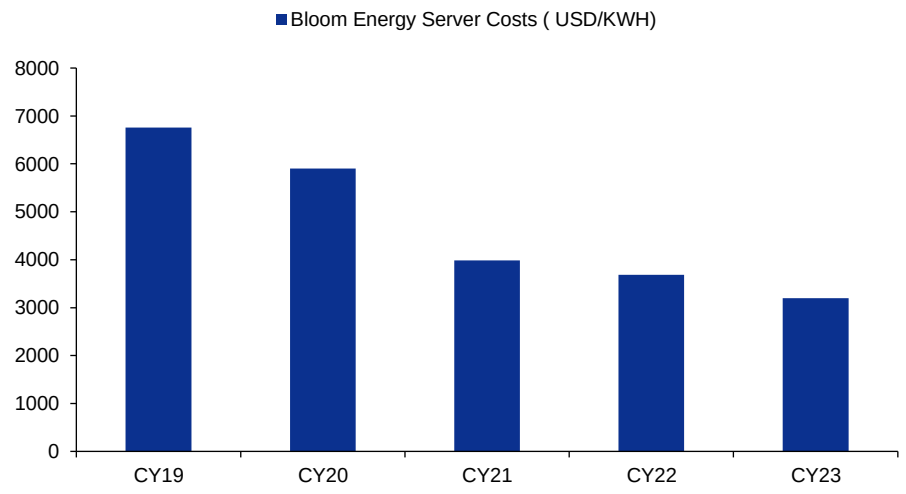


SOURCE: INCRED RESEARCH, PATENT FILINGS

Bloom Energy's fuel cell is cheaper than the US grid ➤

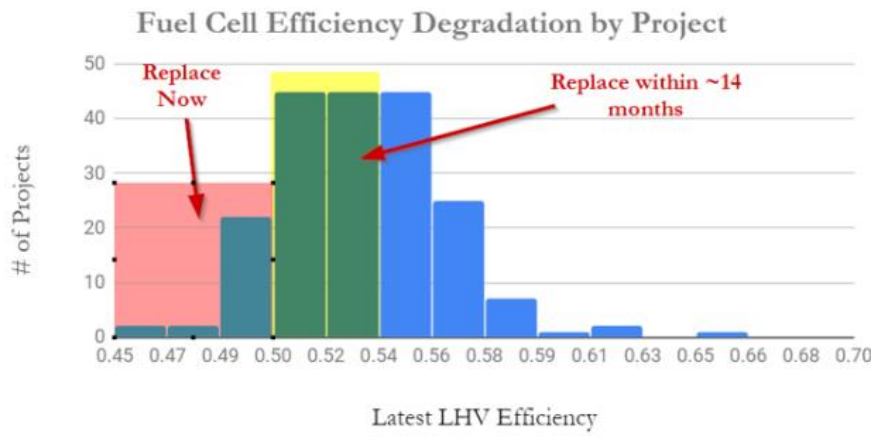
Bloom Energy's fuel cells' costing would primarily involve two sub-divisions - the capital expenditure costs and operating costs. Let's focus on the capex costs first. Bloom Energy's fuel cell currently is priced at US$3,200/kW, and the company has an aim to incur double-digit percentage price reductions going ahead. However, for our analysis, we have assumed US$3,200/kW as a price point. Now the critical question is the average life of the fuel cell. This has been a contentious point for Bloom Energy in the past but according to various media reports, Solid Oxide Fuel Cells last for around five-to-seven years, although Bloom Energy stated that the average lifetime of its cell is around 10 years. Hence, assuming a five-year lifetime means 365*24*5 units of power generated. Dividing US$3,200 (average price of the cell as mentioned above) by 365*24*5 will give us US$/kWh. Now moving ahead with the operating costs, Bloom Energy's fuel cells have a beginning life efficiency of 65%, which gradually decreases with every passing year, and once it goes below the 50% threshold, the company replaces the fuel cells. For our analysis, we have assumed Bloom Energy's fuel cell to have an average efficiency of 55%. Now, natural gas prices are volatile and are on the higher side in the US post Russia-Ukraine war, and we have assumed a range of prices from US$7-10/KCF. It is to be noted that for our calculations, we have not considered any tax deductions and manufacturing incentives for Bloom Energy. However, Bloom Energy does receive a significant chunk of production tax incentives from the Inflation Reduction Act. This helps Bloom Energy to further subsidize costs for its consumers, making it far more competitive than grid power.

Figure 5: Bloom Energy has been decreasing average cost/kW for its fuel cell



SOURCE: INCRED RESEARCH, BLOOM ENERGY

Figure 6: Fuel cells' efficiency decreases linearly as the time from installation progresses; for our calculations, we have assumed an efficiency of 55%



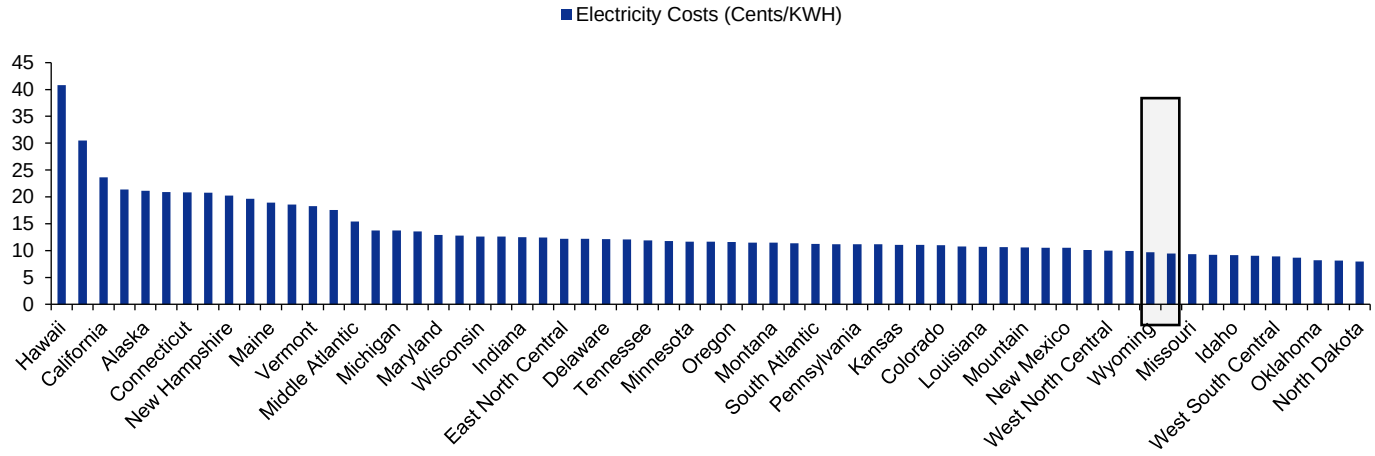
SOURCE: INCRED RESEARCH, BLOOM ENERGY

Figure 7: Different pricing scenarios in cents/kWh for energy generated from Bloom Energy's SOFC

		Average Life of Fuel Cell (Years)					
	Cents/KWH	5	6	7	8	9	10
Natural Gas Prices (Dollar/KCF)	7.06	11	10.7	9.8	9.2	8.7	8.3
	8.06	12.6	11.4	10.5	9.8	9.3	8.9
	9.06	13.2	12	11.1	10.5	10	9.6
	10.06	13.9	12.7	11.8	11.2	10.6	10.2
	11.06	14.6	13.38	12.5	11.8	11.3	10.9
	12.06	15.2	14	13.1	12.5	12	11.6

SOURCE: INCRED RESEARCH, COMPANY REPORTS

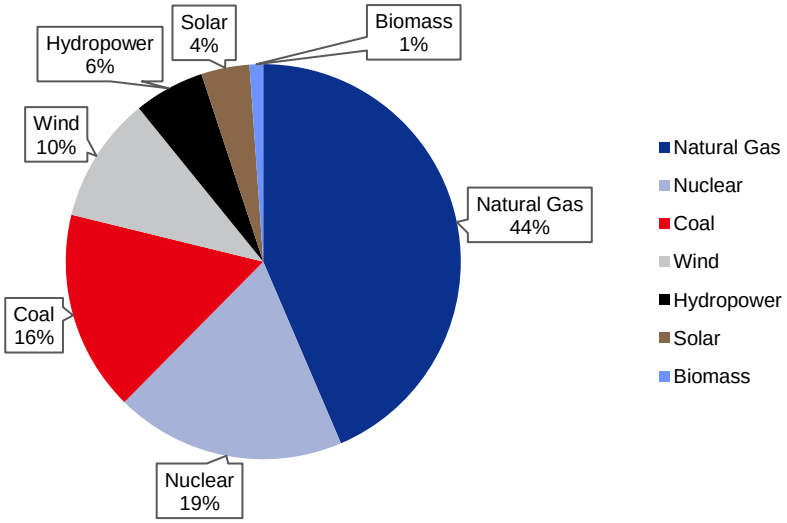
Figure 8: Bloom Energy's electricity costs are cheaper than grid power in most US states; the highlighted region is the energy cost from Bloom Energy's fuel cells



SOURCE: INCRED RESEARCH, EIA DATA

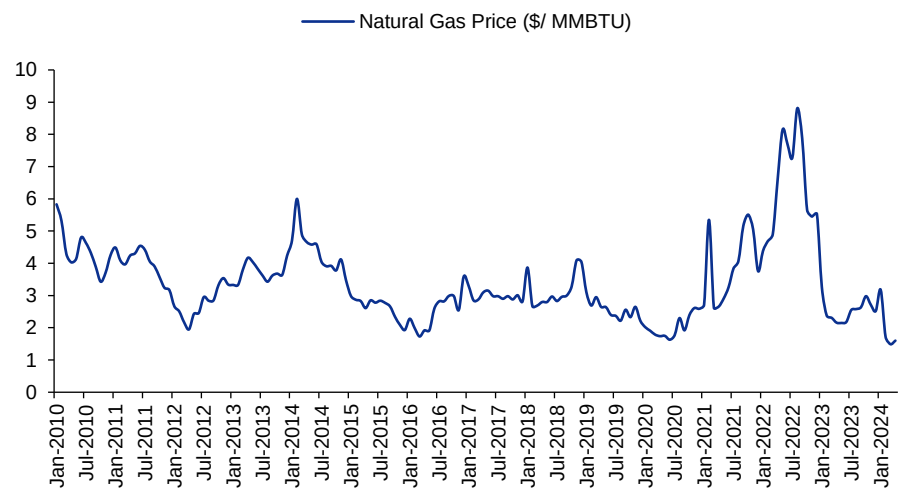
Natural gas prices are coming down but the US grid cost is rising - this is mainly due to rising transmission costs ➤

Figure 9: A major portion of grid power in the US is generated from natural gas



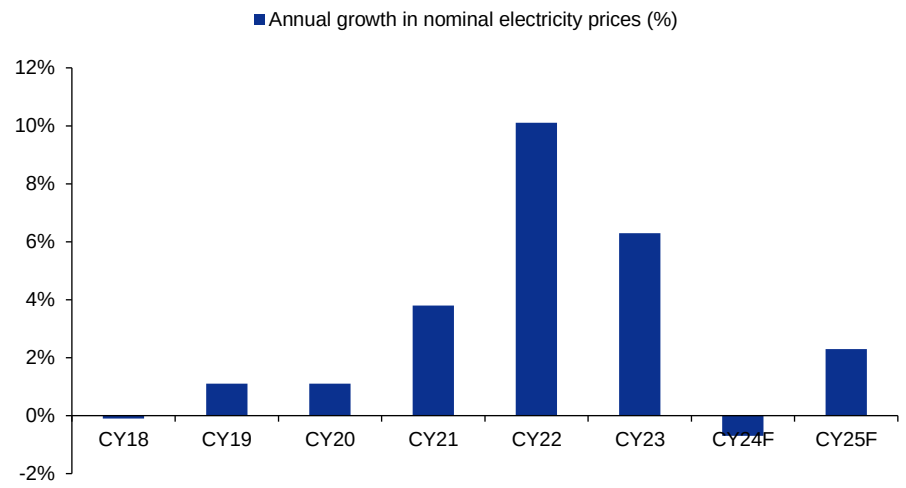
SOURCE: INCRED RESEARCH, EIA DATA

Figure 10: Henry Hub spot price of natural gas has been decreasing



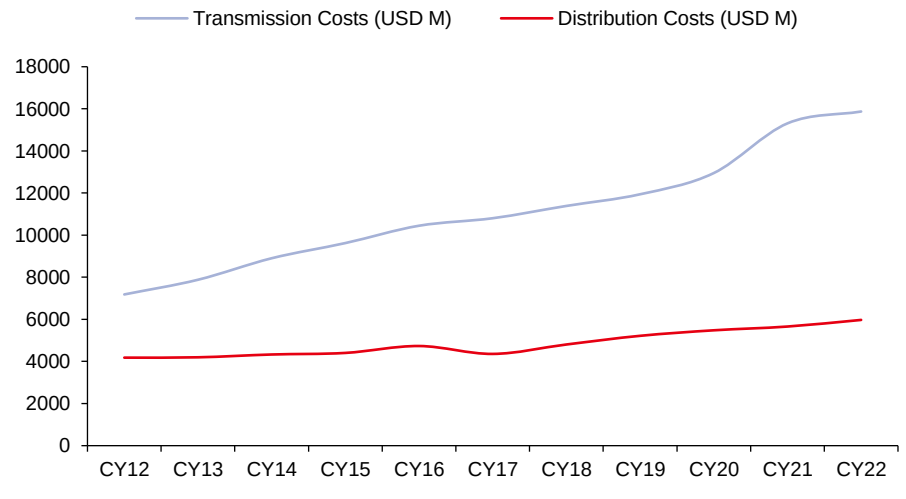
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 11: However, grid power costs yoy in the US have been rising…



SOURCE: INCRED RESEARCH, EIA DATA

Figure 12: …mainly driven by the rise in transmission costs

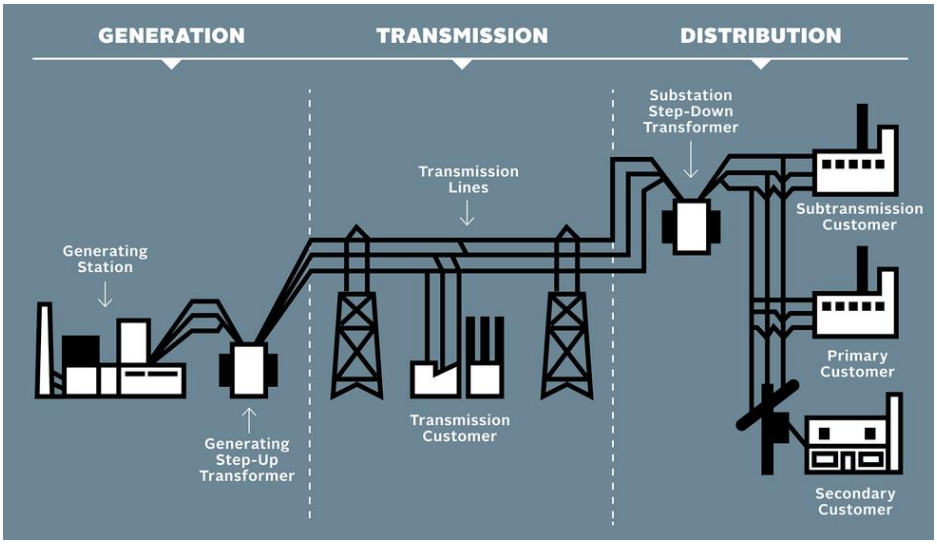


SOURCE: INCRED RESEARCH, EIA DATA

Basic functioning of a modern power grid ➤

The working of the grid depends on a fundamental equation involving 'electricity produced' and 'electricity used'. So 'electricity produced' and 'electricity used" are always in balance on the grid. When you turn on a light, somewhere on the grid, a power plant makes more kWh for that light. When you turn the light off, somewhere on the grid, a power plant on the grid makes fewer kWh. Production and consumption are always in balance in real time. Someone (a 'balancing authority') has the responsibility for calling the plants online and asking them to leave the grid to keep the grid in balance. However, the critical thing here is that people don't use the same amount of electricity every hour of each day. Hence, to meet this varying load for electricity, some plants may run all the time; other plants will only run when called upon. Those plants running all the time provide 'baseload power' and those running only when the power requirement is high provide 'peak power'. Once the power is generated at the generating stations via natural gas or renewables, it is transmitted through transmission towers and finally reaches distribution sub-stations where it is distributed to households.

Figure 13: Basic functioning of a modern power grid



SOURCE: INCRED RESEARCH, COMPANY REPORTS

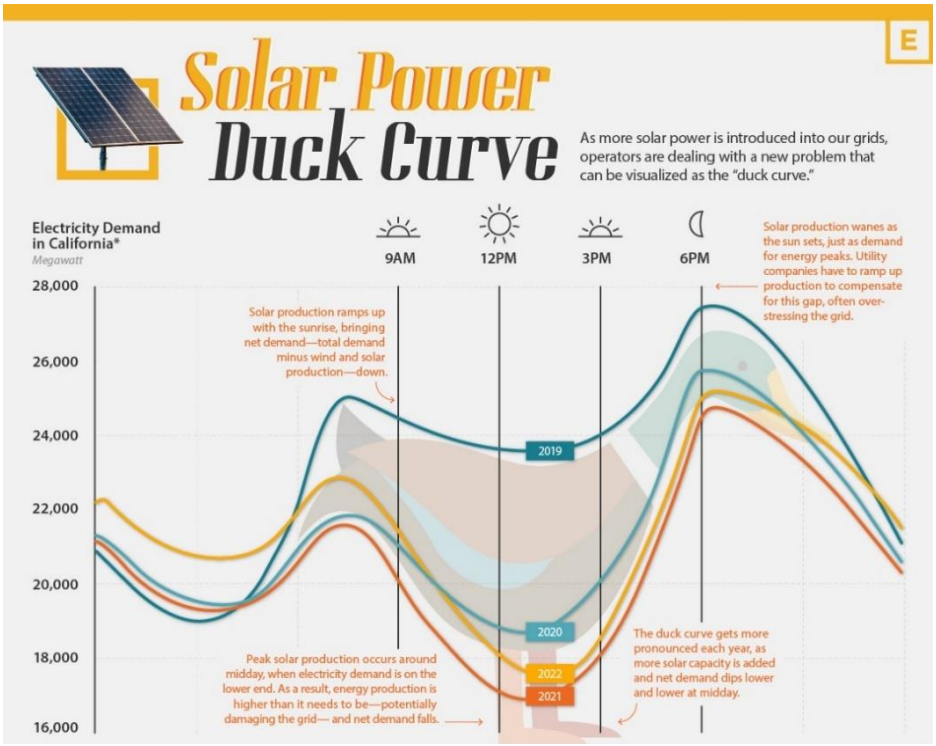
US grid's main problem is renewables resulting in what is widely known as California duck curve ➤

The grid power generally consists of two parts: baseload power and peak power. Traditionally, baseload power has been provided by baseload plants. These are plants that are very good at steady, reliable, inexpensive operations. In general, baseload plants are steam plants: nuclear plants and coal plants. The electricity demand that ramps up during the day and generally lowers late in the evening is generally provided by 'load-following plants'. These are more expensive to run but more flexible in following the load. They tend to be gas-fired plants and hydro. Now keeping this in context, the major problem relating to renewables is their intermittent and spiky nature.

- **Intermittent and spiky nature:** Renewables like solar and wind are intermittent and spiky i.e. they can come and go suddenly. This messes up with the grid, as while grid demands change slowly, the wind starts blowing and dies down with comparative suddenness. The wind is blowing hard, but the consumers don't need any extra power. In this case, the grid operator asks the wind turbines to disconnect from the grid partially or totally (this is called curtailment). It is important because the grid must always be in balance. This results in what is famously known as the 'California duck curve'. Solar inputs to the grid tend to be the highest during summer afternoons. However, when the Sun goes down, the solar goes offline rapidly. In that case, peak load power plants like gas and hydro ramp up, and they often must ramp up faster than the solar is ramping down. Faster because people tend to turn on the light

when the Sun sets or come inside and begin cooking dinner and so on. **There is a rule of thumb on the grid that no plant should be so big - that is more than 10% of the average demand of the grid. People look at solar as a distributed system: my rooftop, your rooftop. No huge power plant here. However, in fact, solar often acts as a single mega plant which switches off entirely in the evening.**

Figure 14: Duck Curve prevalent in California electric grid

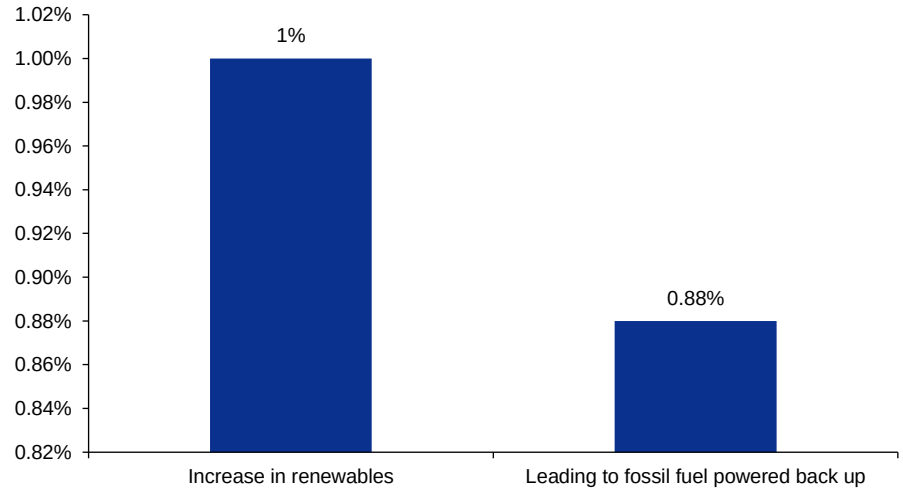


SOURCE: INCRED RESEARCH, COMPANY REPORTS

More renewables doesn't neccesarily mean less carbon as renewables suffer from levelized cost paradox ➤

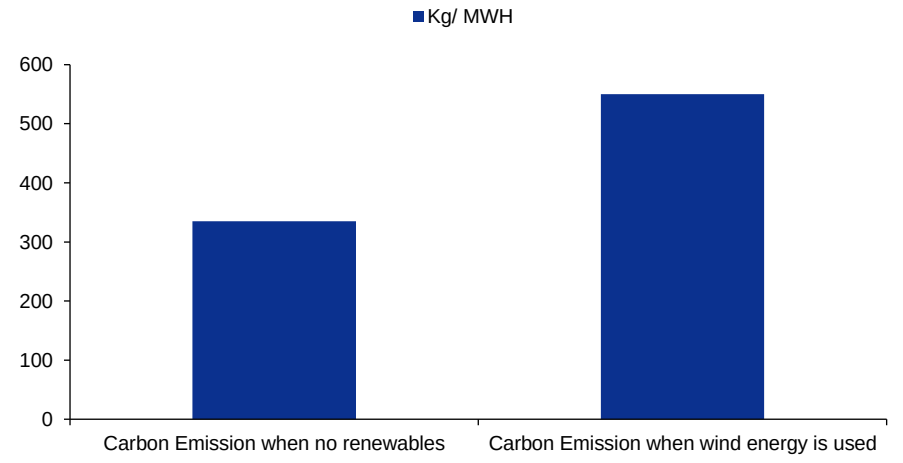
To understand the levelized cost paradox associated with renewables, let's undertake a simple analogy. If you rent an apartment for US$100 per night, and then you also start renting a second apartment for US$50 per night, then your total rental costs go up by 50%, not down by 50%. The simple levelized cost of the second apartment is 50% lower than the first. But overall costs rise as the costs of the first apartment are fixed, and renting the second apartment erodes the utilization rate of the first one. Something of this sort happens with renewables as well. When clouds pass across the Sun, and the wind starts and stops when it wants to, the output from renewable energy sources can go up and down quite quickly. To keep the grid in balance, something must be ready to start up quickly when a renewable gets spiky. In general, the thing that starts up quickly is a gas-fired plant that is deliberately kept in a state where it is ready to run. However, simply having such a plant on the grid does not necessarily provide fast back-up for the renewable's spikiness. The plant must also be ready to begin operations very quickly. This often means keeping the plant running at a low level, or keeping the turbine spinning without a load to be sure that the plant can come up to speed quickly. **In fact, a grid, large or small, needs as much quick-reacting fossil capacity as it has intermittent renewable capacity. Hence, in the analogy mentioned, this is what the fixed-cost plants must have to keep the grid reliable due to intermittent nature of the grid.**

Figure 15: Every 1% rise in renewables leads to a 0.88% rise in fossil fuel-powered back-up



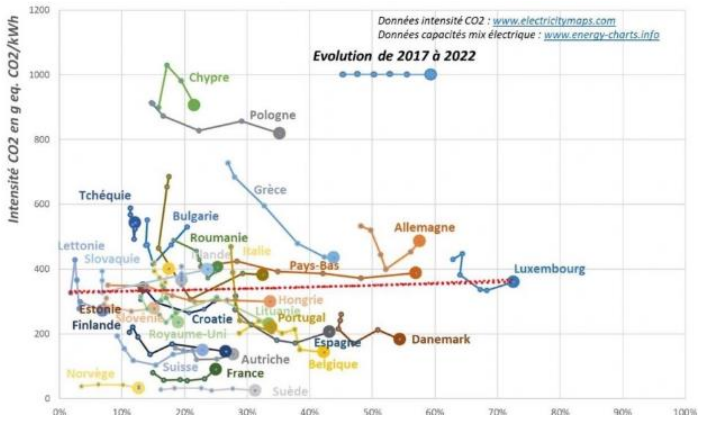
SOURCE: INCRED RESEARCH, SHORTING THE GRID

Figure 16: A study conducted on an Irish grid showed wind turbines resulted in higher carbon and hence, no direct correlation between wind energy and lower carbon



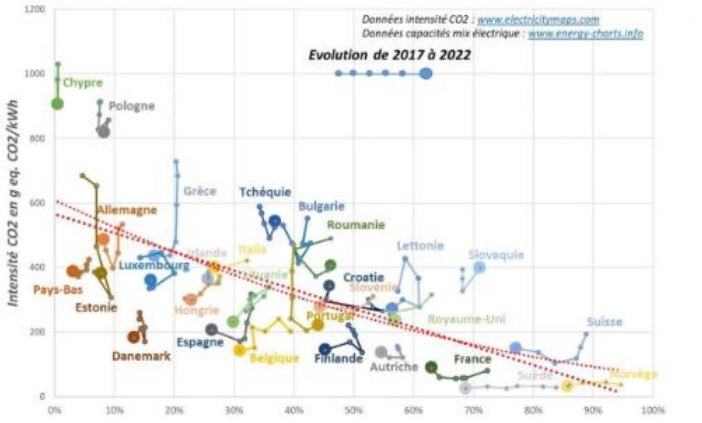
SOURCE: INCRED RESEARCH, SHORTING THE GRID

Figure 17: The red dotted line in the graph below shows that carbon emission goes up when intermittent renewables like solar and wind are used in an European grid



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 18: However, the same red dotted line shows carbon emissions coming down when renewables like geothermal, nuclear and fuel cells are used

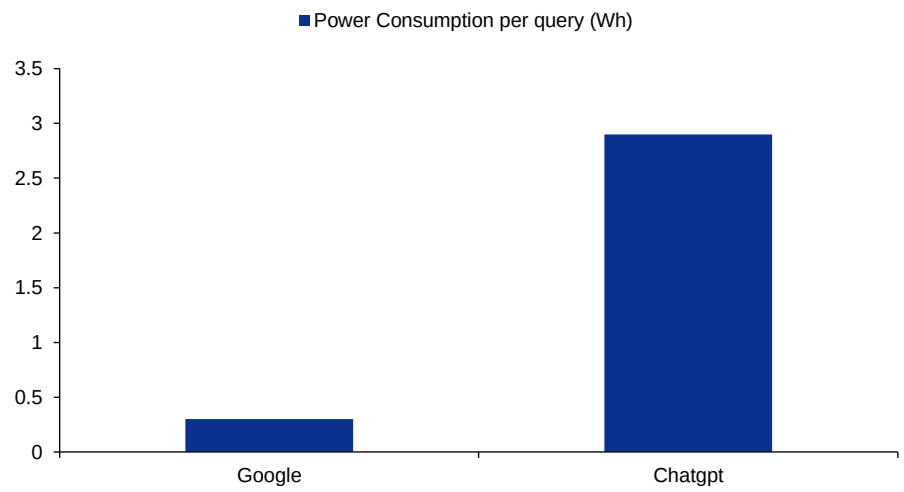


SOURCE: INCRED RESEARCH, COMPANY REPORTS

The US grid is unreliable and expensive and this will be further exacerbated by power demand from data centres ➤

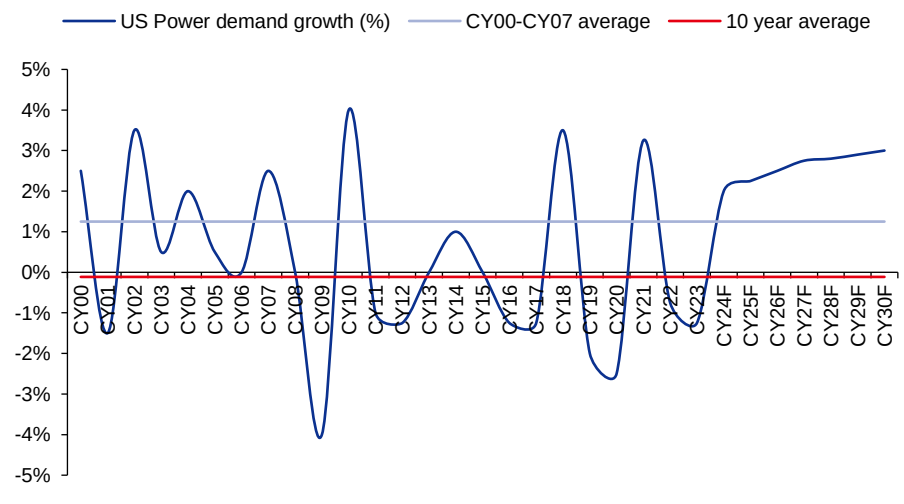
With the generative AI boom resulting from ChatGPT and Nvidia, power demand is expected to surge. As the US grid is already stretched, this will likely result in further worsening of the power demand situation. Queries for ChatGPT are more energy-intensive than Google Chrome. Secondly, with every passing year, the efficiency of the US grid was improving due to the addition of renewables, resulting in flattening power demand. However, that efficiency is reaching its peak and hence, in the coming years, rising power demand will require higher power generation.

Figure 19: Chat GPT queries are 6x-10x power-intensive as traditional Google searches



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 20: US power demand growth has averaged 0% in the last 10 years, relative to early 2000s' growth of ~1.5% on an average - this is expected to go up till CY30F



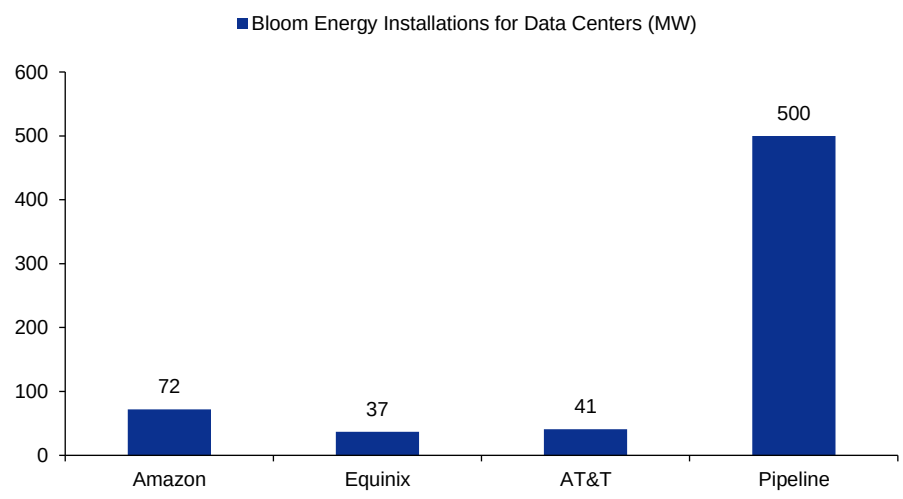
SOURCE: INCRED RESEARCH, EIA DATA

Bloom Energy is getting significant incremental orders from these data centres, which should benefit MTAR ➤

Data centres are critical for sustaining the generative AI boom. However, these data centres require resilient power with no outages. In fact, the cost of a US data centre outage has grown to US$8,851/minute. With outages becoming more and more expensive, this is where the USP of Bloom Energy lies. Bloom Energy's servers have been successfully implemented in 40+ data centres throughout the US including AT&T, Equinix and JP Morgan. While the company is generating

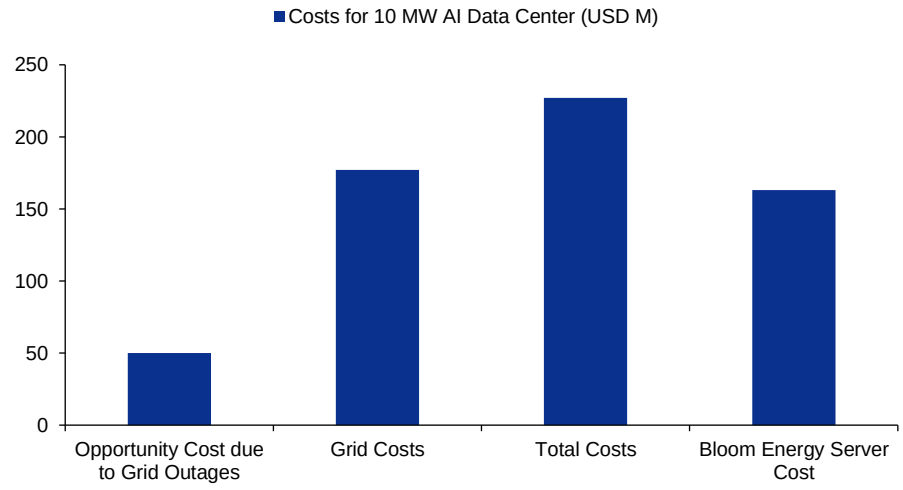
sales from brownfield data centres currently, which have a relatively shorter sales cycle, incremental demand will come from greenfield data centres which have a longer sales cycle. Bloom Energy has roughly 0.5GW incremental demand from data centres in the pipeline currently.

Figure 21: Bloom Energy's data centre installation (MW) and pipeline demand



SOURCE: INCRED RESEARCH, BLOOM ENERGY

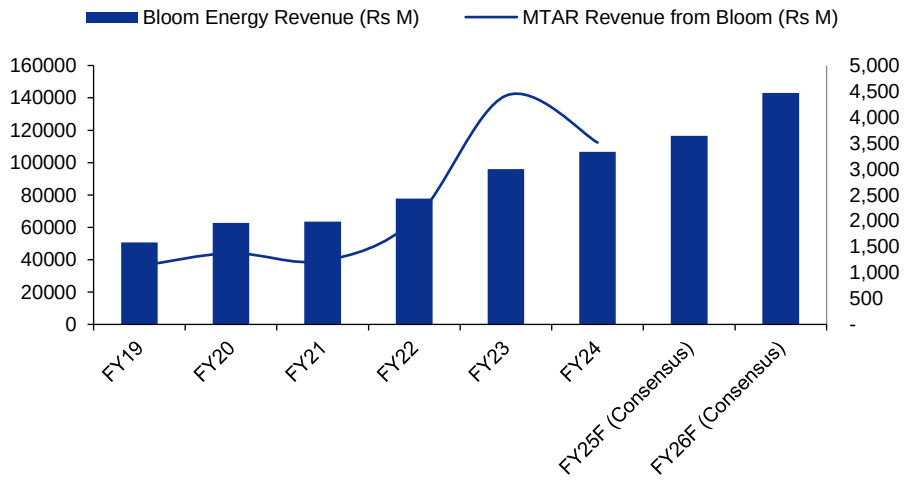
Figure 22: Over a span of 15 years, Bloom Energy is significantly cheaper than the grid if we take the opportunity cost from outages into account



SOURCE: INCRED RESEARCH, COMPANY REPORTS

MTAR generates 60% of its revenue from Bloom Energy and hence, they are closely interlinked ➤

Figure 23: Bloom Energy is expected to register a growth of 9% in FY25F and 23% in FY26F, according to consensus estimates



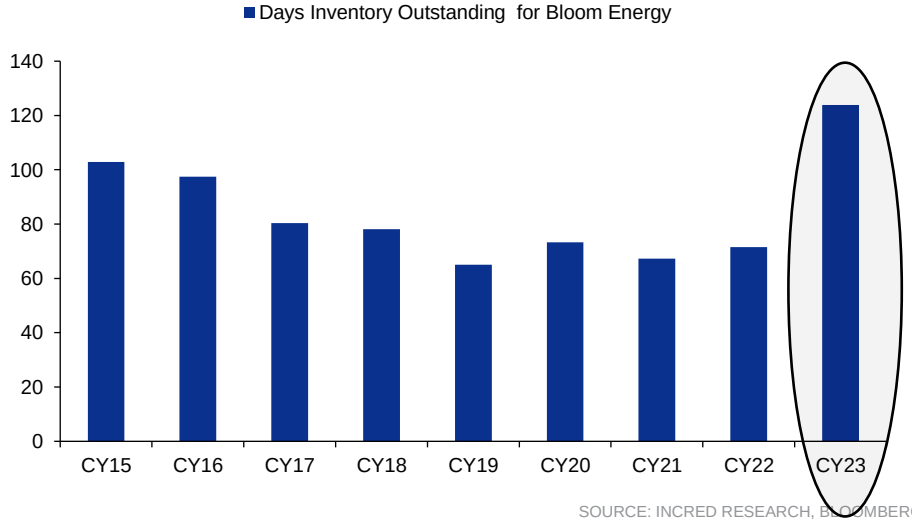
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 24: Bloom Energy's financials - snapshot

In Millions of INR	2019 Y	2020 Y~	2021 Y	2022 Y	2023 Y	2024 Y Est	2025 Y Est
12 Months Ending	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024	12/31/2025
Market Capitalization	64,397.0	351,758.2	288,282.1	325,207.8	276,783.7		
- Cash & Equivalents	14,446.0	18,040.8	29,502.9	28,821.3	55,309.2		
+ Preferred & Other	6,533.7	4,571.2	18,724.5	3,145.9	1,547.3		
+ Total Debt	77,917.5	66,751.7	83,856.9	84,569.7	121,215.7		
Enterprise Value	134,402.2	405,040.3	361,360.6	384,102.1	344,237.4		
Revenue, Adj	55,281.8	58,869.0	71,890.2	94,272.2	110,090.6	121,619.7	149,196.8
Growth %, YoY	24.1	1.2	22.4	23.3	11.2	10.5	22.7
Gross Profit, Adj	6,870.8	12,288.5	14,610.7	11,658.0	16,329.8	31,996.9	43,546.1
Margin %	12.4	20.9	20.3	12.4	14.8	26.3	29.2
EBITDA, Adj	-5,672.0	-1,383.4	-3,074.4	-13,670.1	-9,304.2	11,064.9	19,353.4
Margin %	-10.3	-2.3	-4.3	-14.5	-8.5	9.1	13.0
Net Income, Adj	-17,356.5	-10,694.1	-10,707.3	-6,249.1	-15,343.0	1,494.3	9,094.6
Margin %	-31.4	-18.2	-14.9	-6.6	-13.9	1.2	6.1
EPS, Adj	-151.07	-77.41	-61.87	-33.61	-72.14	7.26	36.98
Growth %, YoY	54.45	51.33	19.88	48.90	-104.37		409.32
Cash from Operations	11,530.5	-7,322.7	-4,487.2	-15,072.8	-30,756.0		
Capital Expenditures	-3,594.5	-2,810.1	-3,683.3	-9,184.3	-6,913.4	-7,777.7	-9,456.8
Free Cash Flow	7,936.0	-10,132.8	-8,170.6	-24,257.1	-37,669.4	-69.0	5,622.6

SOURCE: INCRED RESEARCH, BLOOMBERG

Figure 25: Reduction in FY24 revenue for MTAR was due to higher inventory on Bloom Energy's balance sheet due to the change in green hydrogen policies in South Korea



SOURCE: INCRED RESEARCH, BLOOMBERG

Scenario analysis for MTAR's PAT with respect to Bloom Energy's consensus earnings miss/beat in FY26F ➤

Figure 26: Even if Bloom Energy misses its revenue estimates by 15%, it will only have a corresponding 11% PAT decline for MTAR

		Bloom Energy Revenue Miss/ Beat from Consensus					
	FY26F PAT miss/beat from our estimates	**-15%**	**-10%**	**-5%**	**0%**	**5%**	**10%**
MTAR's revenue as a %age of Bloom Energy's revenue	**3%**	-35%	-33%	-30%	-28%	-26%	-24%
	4%	-23%	-20%	-17%	-14%	-11%	-8%
	5%	-11%	-7%	-3%	0%	4%	7%
	6%	2%	6%	10%	14%	19%	23%
	7%	14%	19%	24%	29%	34%	38%

SOURCE; INCRED RESEARCH, COMPANY REPORTS

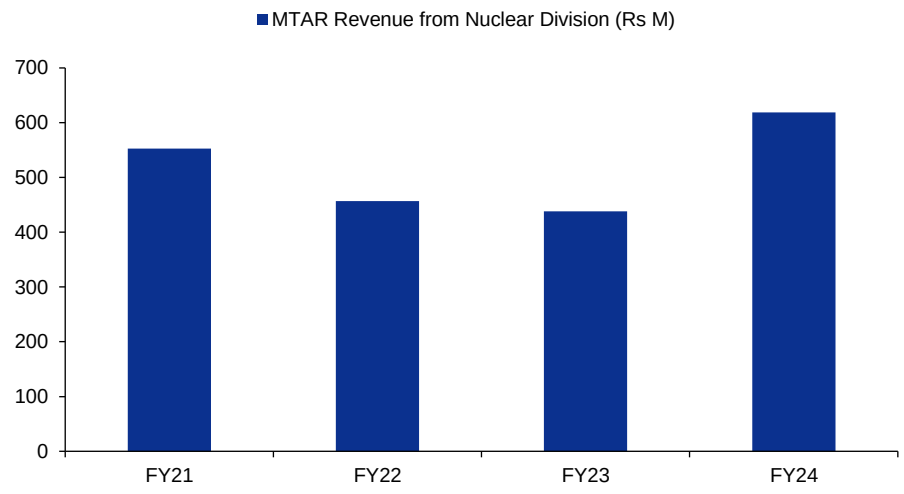
Nuclear energy to be a significant growth trigger for MTAR ➤

Nuclear energy is an up-and-coming alternative source of energy in the country. The Government of India or GoI is planning to commission 20 nuclear reactors by CY31F, trebling its power generation capacity from 7,480MW currently to 22,480 MW, and so vast number of opportunities are on the cards. There is another critical problem which a nuclear plant can address. In the past, power supply was constant (thanks to thermal power plants) while demand surged and waned. The demand and supply balance was usually maintained through load shedding. That is changing now. As the share of renewables in India's energy mix rises, both supply and demand will become variable. **The country's electricity system will need additional investments in the forms of energy which are reliable and resilient. Bloom Energy's fuel cells could be among them while nuclear could be another.** However, India has also tried to develop nuclear power generation capacity in the past, but it has suffered from cost and time overruns. So, what has changed this time. Firstly, Nuclear Power Corporation of India (NPCIL) has been told to jointly develop nuclear plants with companies like NTPC. The rationale? Not only can NTPC raise funds more easily than NPCIL by pooling their strengths in project management and nuclear plant design, but they can also set up nuclear plants faster. **Secondly, the government is also very bullish on SMR or Small Modular Reactors** (we will discuss this subsequently). As a result, due to the government push, things in the nuclear energy industry are bound to change.

MTAR makes fuel machining heads & other specialized products for nuclear reactors, which is a significant value add ➤

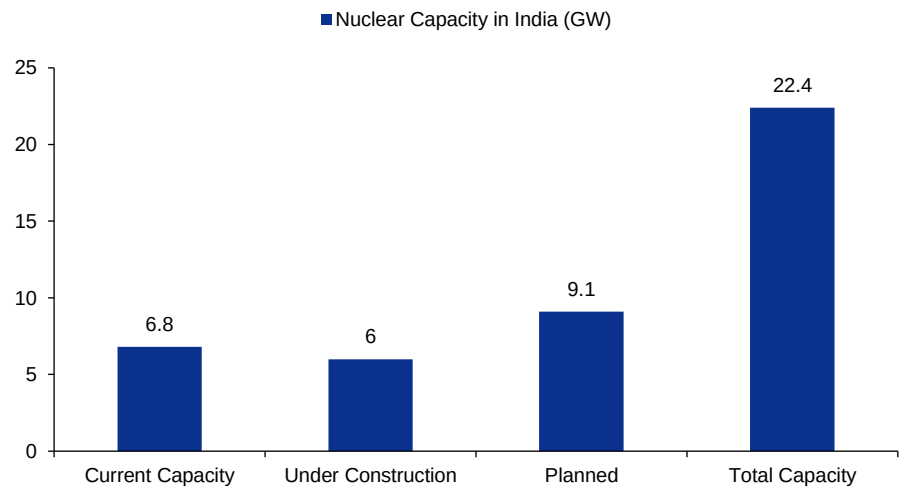
The nuclear segment accounted for ~11%/16% of revenue/order book in FY24, respectively. The segment's revenue growth yoy was a healthy 40% from Rs438 m in FY23 to Rs619m in FY24. MTAR manufactures and supplies specialized products, such as fuel machining head, drive mechanisms, bridge and column and coolant channel assemblies, ball screws and water-lubricated bearings, among other critical products under the nuclear segment. The company expects ~Rs5bn worth of orders flowing in for the Kaiga 5 and 6 reactors in 1QFY25F. Also, the aftermarket provides a good revenue opportunity in the form of maintenance and refurbishment as most India's installed reactor base hits the critical 20-year life span in the coming years. The market was valued at Rs5.5-6bn during FY15-19 and is estimated to be Rs9-10bn over FY20-25F. As of CY19-end, nuclear power plants with 2.6GW capacity were in the refurbishment stage. This is expected to rise to 3.5-4.0GW by 2025F. MTAR supplies 14 different pieces of equipment to the nuclear sector, translating into an addressable market opportunity size of Rs7-8bn per reactor. The total addressable market opportunity for MTAR stands at ~Rs70-80bn as it caters to ~20-25% of the equipment portion of the overall order of 700MW PHWR nuclear plant.

Figure 27: MTAR's revenue from nuclear division has significantly improved in FY24



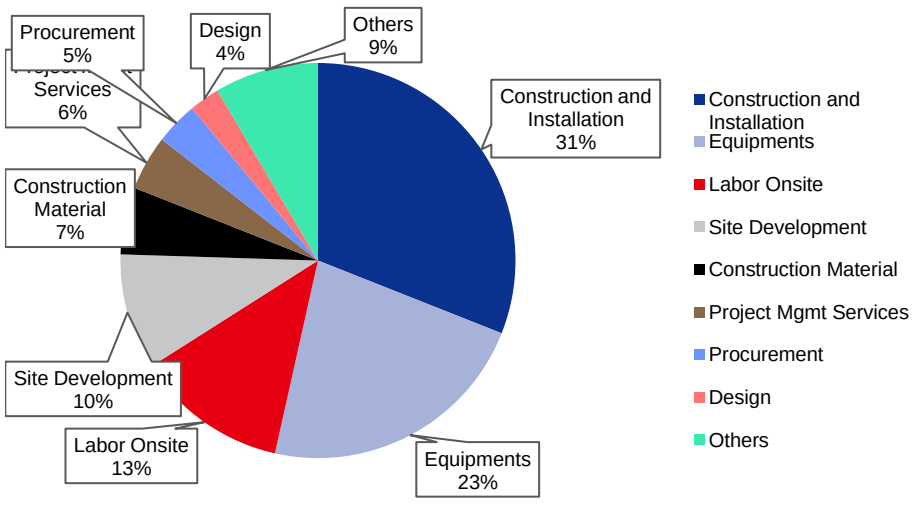
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 28: Upcoming nuclear capacity in India



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 29: Capital cost break-up of a nuclear reactor



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 30: Under-construction nuclear reactors in India

Under Construction Reactors	Construction Start	Gross Capacity (GW)
PFBR	2004	0.5
Kakrapara 4	2010	0.7
Rajasthan 7 & 8	2011	1.4
Kudankulam 3 & 4	2017	2
Gorakhpur 1 & 2	2018	1.4

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 31: Upcoming nuclear reactors in India

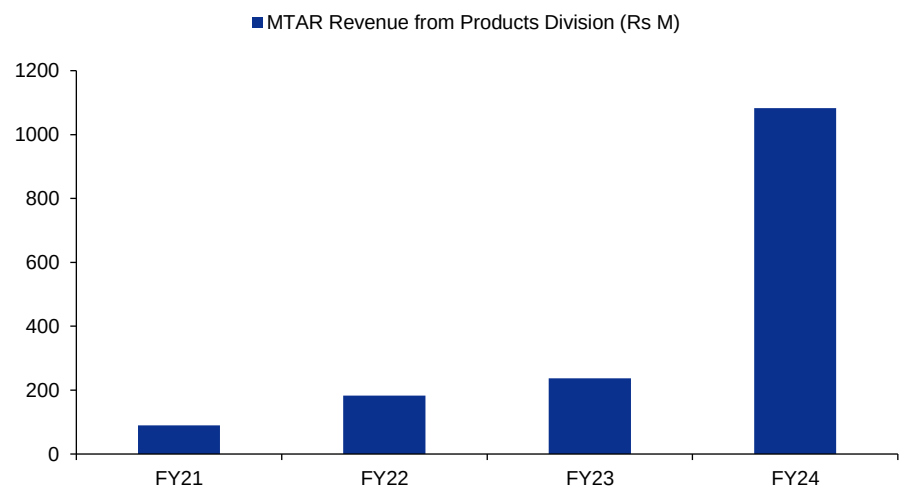
New Reactors Planned	State	Gross Capacity (GW)
Gorakhpur 3 & 4	Tamil Nadu	1.4
Chutka 1 & 2	Gujarat	1.4
Mahi Banswara- 1,2,3 and 4	Rajasthan	2.8
Kaiga- 5 & 6	Tamil Nadu	1.4
Kudankulam- 5 & 6	Haryana	2

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Product business for MTAR will result in import substitution opportunity ➤

The product and other segments accounted for 19%/4.3% share in the revenue/order book, respectively, in FY24. Recently, the Ministry of Defence (MoD) announced 101 major pieces of defence equipment that the MoD will no longer clear for import. Instead, these 101 items will be incrementally procured from indigenous sources, as per the provisions of Defense Acquisition Procedure (DAP) 2020. In this regard, the company recently developed a few products such as ball screws and water-lubricated bearings which find various applications in clean energy - civil nuclear power, and space & defence sectors, and were earlier imported in India. This opens an entire import market for MTAR. The company is further developing products such as roller screws, electro-mechanical actuators, valves, ASP assemblies, and bellows for fuel cells, and heaters for electrolyzers. These products are developed to substitute imports.

Figure 32: Revenue from the products division of MTAR is showing a gradual improvement



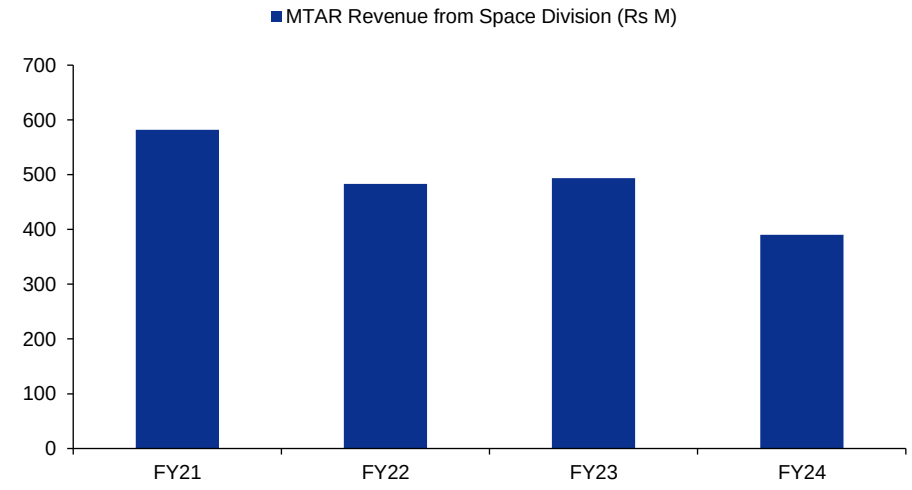
SOURCE: INCRED RESEARCH, COMPANY REPORTS

In-house R&D in small satellites launch vehicle to boost revenue from space division ➤

The Indian Space Research Organization (ISRO) has carried out 92 launch missions and 125 spacecraft missions since its founding. For these missions, MTAR has been a major supplier of electro-pneumatic modules, cryogenic engines, and liquid propulsion engines to ISRO. Prior to the start of Covid-19 pandemic, ISRO had intended to launch 31 satellite missions in FY21 and FY22 but because of the outbreak, ISRO was able to launch only two, five, and six missions in FY21, FY22, and FY23, respectively. It is anticipated that ISRO will

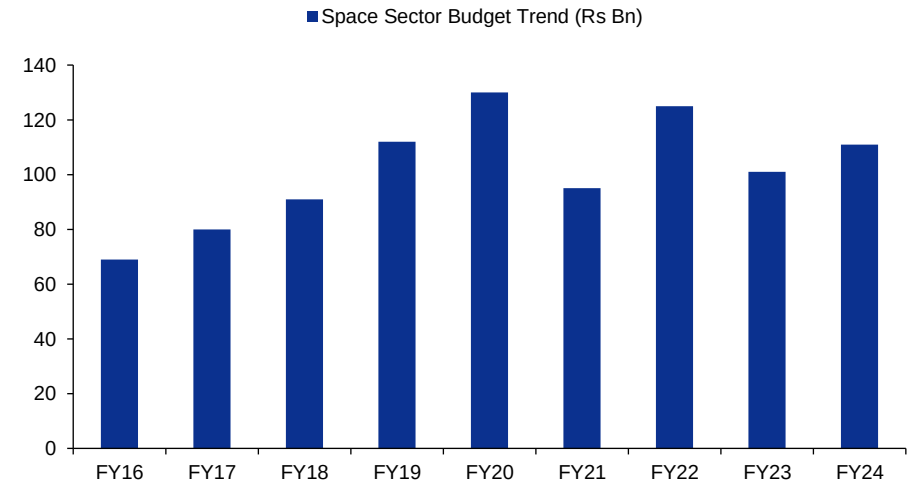
increase the number of missions it launches from 21 to 30 in FY24 and FY25F. ISRO plans to commercialize the Indian space industry in response to the growing need for satellite applications. To contract with the HAL-L&T partnership to produce five PSLVs, ISRO established NewSpace India, a new commercial arm, in CY19. Following the successful completion of this project, the arm will proceed to produce 12 more PSLVs. Additionally, MTAR and the Indian National Space Promotion and Authorization Centre (IN-Space) have inked a Memorandum of Understanding (MoU) for the design and development of GARUDA 1, a two-stage, all-liquid, low-earth orbit small satellite launch vehicle (SSLV) with a 500kg payload capacity that is powered by semi-cryogenic technology. The completion of SSLV, which is expected to take two-to-three years, is likely to create a robust order flow for the supply of engines and other parts required for launch vehicles that are comparable. MTAR plans to leverage IN-Space's assistance for the acquisition and promotion of avionics as well as its own in-house development of 100t and 10t all-liquid engines. The space division accounted for 6%/15% of the revenue/order book, respectively, in FY24, and this is expected to see further order inflow.

Figure 33: Revenue from the space division of MTAR



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 34: Space sector's budget has been in an uptrend in the last few years

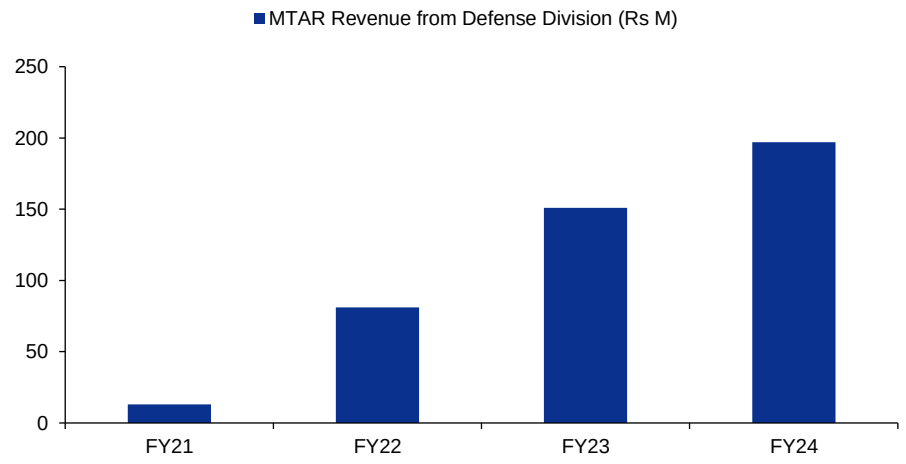


SOURCE: INCRED RESEARCH, COMPANY REPORTS

European defence spending could also act as a trigger for the defence segment of MTAR ➤

The defence segment contributed only ~3% to the company's FY24 topline. However, this could be ramped up significantly in the coming years as MTAR counts Rafale and IAI among its defence sector clients. With the ongoing Israel-Hamas and Russia-Ukraine wars, defence spending is ramping up in Europe, which could lead to growth for players like MTAR in the coming years. Moreover, MTAR has entered into a long-term agreement spanning over 15 years with Israeli Aerospace Industries (IAI) to supply mission critical assemblies in the aviation sector. This is going to be a recurring contract, with a total value ranging from US$90m to US$120m over 20 years.

Figure 35: Revenue from the defence division for MTAR has been on an uptrend



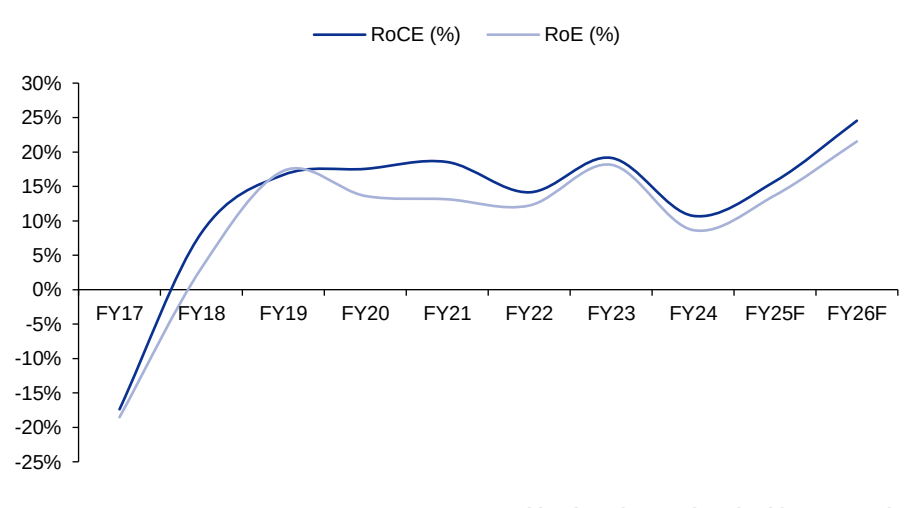
SOURCE: INCRED RESEARCH, COMPANY REPORTS

A peak into MTAR's valuation

Improving fundamentals to lead the way ➤

The EPS growth rate of MTAR for the next two years is exceptional, in our view, at an 83% CAGR (FY25F-26F). At the same time, we believe the company's RoE will increase from 8% in FY24 to 22% in FY26F. MTAR will benefit from the rising demand for Bloom Energy's fuel cell servers, as the US power demand for resilient and reliable grid picks up. With the incremental power demand coming from data centres, this number can be further expected to go up. RoCE for MTAR is expected to improve from 10.7% in FY24 to 24.5% in FY26F. Improvement in revenue will also lead to rising utilization of the company's facilities, leading to higher operating leverage.

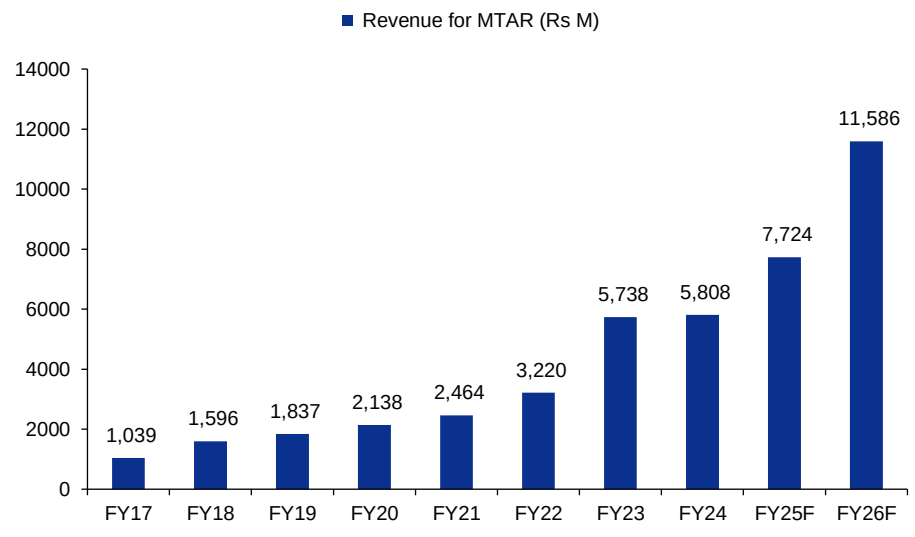
Figure 36: Improvement in RoE and RoCE on the cards



SOURCE: INCRED RESEARCH, COMPANY REPORTS

We expect the company to register a revenue CAGR of 42% over FY24-26F. Most of this growth will be fueled by fuel cells in FY25F and FY26F. The inventory situation with Bloom Energy will revive in the coming quarters, which will lead to revenue growth from Bloom Energy. Margins will also improve, and we expect the EBITDA margin to improve by 500bp from FY24 to FY26F. The company has become cash-flow-from-operations-positive in FY24, and this will continue in FY25F and FY26F as well. We expect MTAR to become FCF-positive by FY26F.

Figure 37: MTAR's revenue to register a 41% CAGR over FY25F-26F



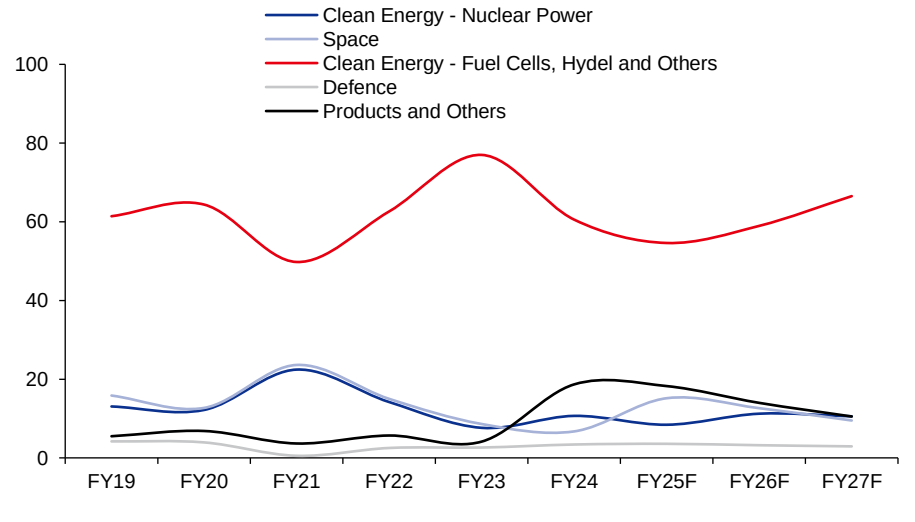
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 38: Segmental revenue mix for MTAR; the clean energy segment is expected to dominate revenue growth

	FY19	FY20	FY21	FY22	FY23	FY24	FY25F	FY26F	FY27F
Clean Energy - Nuclear Power	240	260	553	457	438	619	650	1,300	1,950
Space	291	271	582	483	494	390	1,170	1,463	1,755
Clean Energy - Fuel Cells, Hydel and Others	1,128	1,375	1,227	2,016	4,417	3,512	4,214	6,828	12,290
Defence	77	84	13	81	151	197	276	372	540
Products and Others	101	146	90	183	237	1,083	1,408	1,619	1,943
Total Revenue	**1,837**	**2,136**	**2,465**	**3,220**	**5,737**	**5,801**	**7,718**	**11,582**	**18,478**

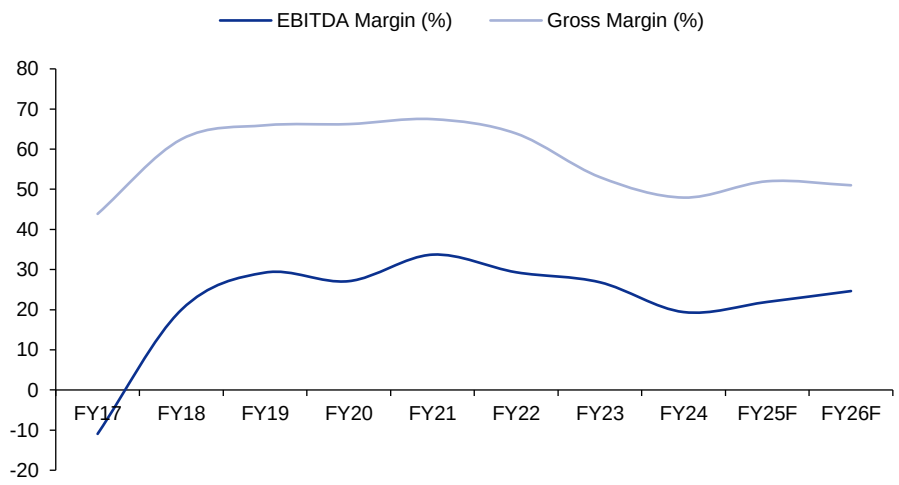
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 39: Revenue mix (%) of MTAR; clean energy to be the dominating segment in FY25F and FY26F



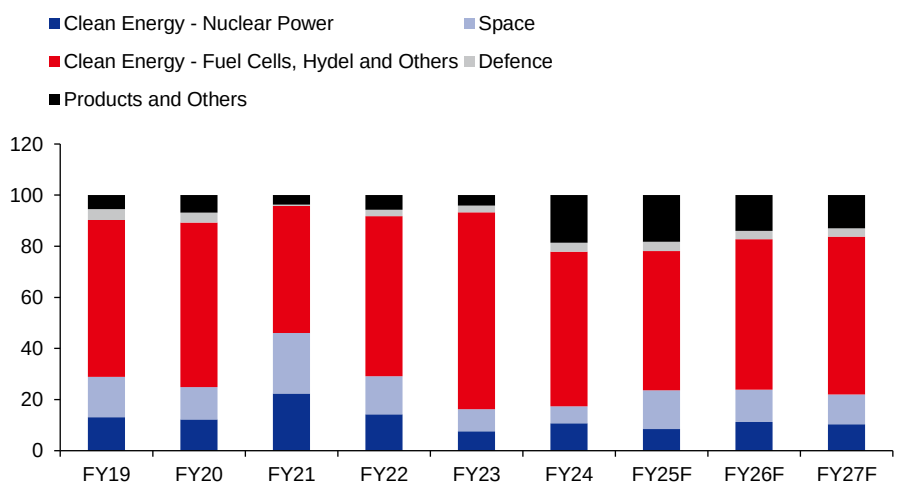
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 40: EBITDA margin to remain rangebound as Bloom Energy's focus on product costs to decrease



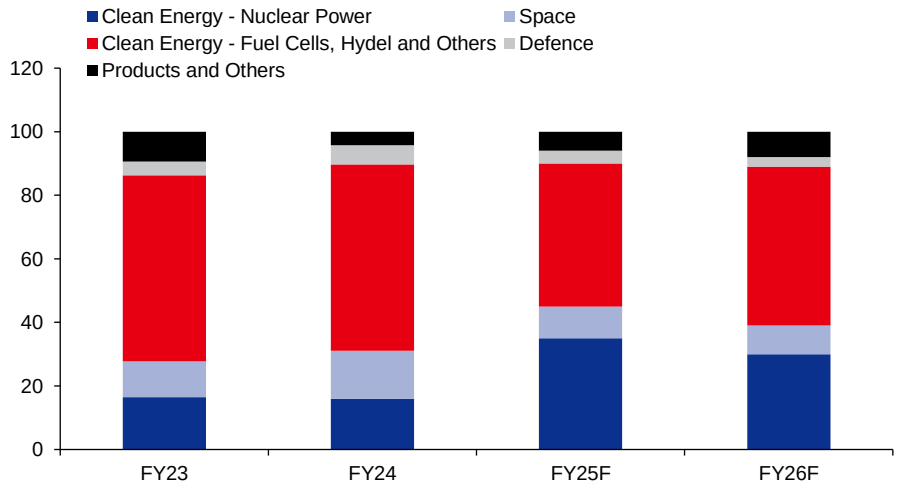
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 41: Revenue mix (%) to be heavily tilted towards clean energy and fuel cells



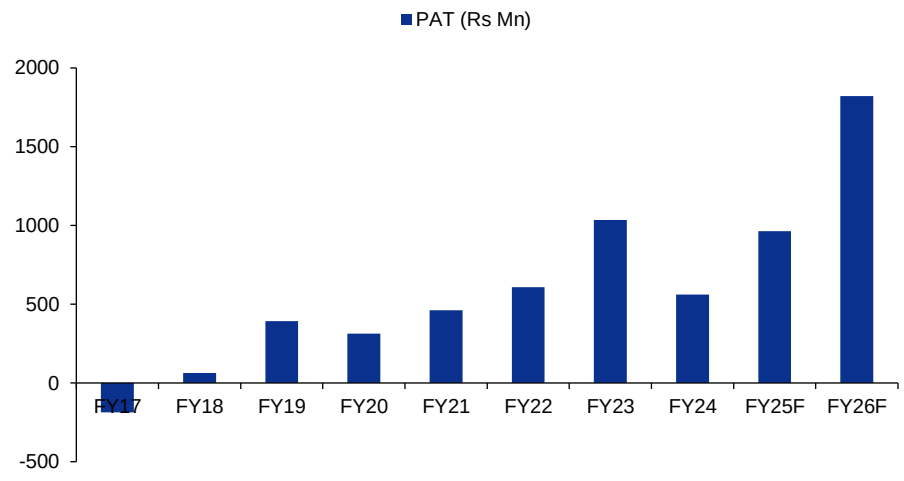
SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 42: Order book mix (%) shows a slight increase in nuclear orders due to expectation of a Rs6,000m incremental order from Kaiga nuclear reactor



SOURCE: INCRED RESEARCH, COMPANY REPORTS

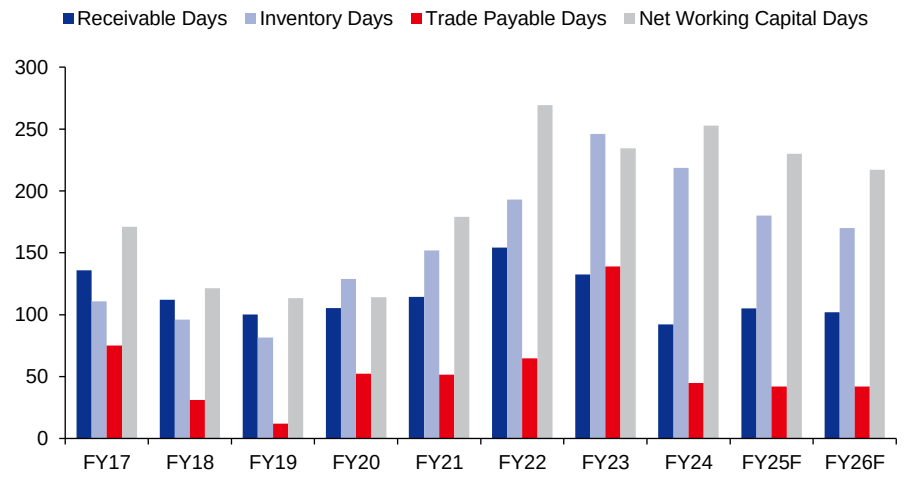
Figure 43: PAT to register an 80% CAGR over FY24-26F



SOURCE: INCRED RESEARCH, COMPANY REPORTS

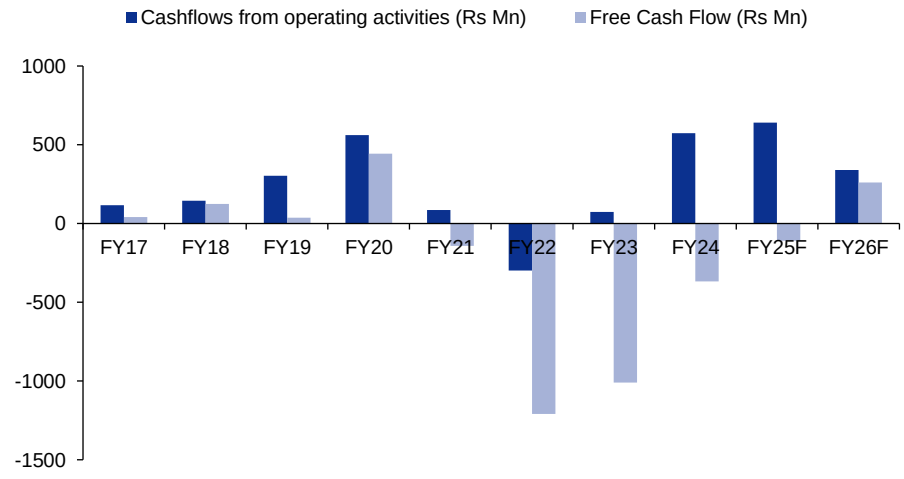
Working capital improvement to make MTAR free-cash-flow-positive by FY27F »

Figure 44: NWC days to improve from 253 in FY24 to 217 by FY26F



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 45: MTAR to become free-cash-flow-positive by FY26F



SOURCE: INCRED RESEARCH, COMPANY REPORTS

We have used the P/E methodology to value MTAR

We have valued MTAR on a P/E basis, as we consider it a more appropriate valuation method for commodity companies rather than the discounted cash flow or DCF or P/BV methodologies. In our view, DCF is not a suitable valuation method because MTAR is a high-growth company and forecasting its long-term earnings reliably is very difficult.

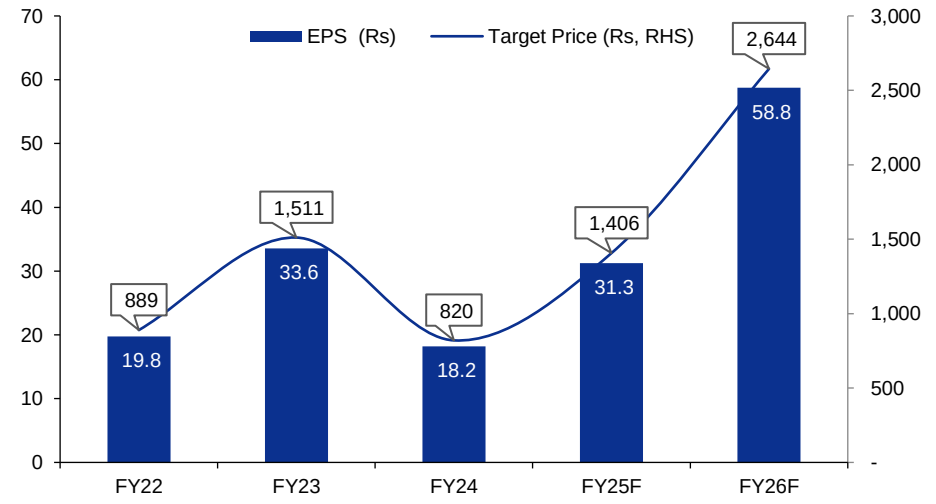
Figure 46: Target price valuation

	MTAR Tech							
CMP	**1,705**							
Mean P/E	**72.0**							
PE (x)	**45.0**							
Premium/(Discount)	**-38%**							
Target Price (Mar-26F)	**2,644**							
Expected Return (%)	**55.1**							
Price Sensitivity Analysis								
	EPS	**Growth**	**P/E**					**Target P/E multiple (x)**
	(Rs)	**(%)**	**(x)**	**35.0**	**40.0**	**45.0**	**50.0**	**55.0**
FY22	19.8	-27.6	86.3	692	790	889	988	1,087
FY23	33.6	69.9	50.8	1,175	1,343	1,511	1,679	1,847
FY24	18.2	-45.7	93.6	638	729	820	911	1,002
FY25F	31.3	71.6	54.6	1,094	1,250	**1,406**	1,563	1,719
FY26F	58.8	88.0	29.0	2,057	2,351	**2,644**	2,938	3,232

SOURCE: INCRED RESEARCH, COMPANY REPORTS

We have valued MTAR at 45x FY26F EPS

Figure 47: EPS likely to grow from Rs18 in FY24 to Rs59 in FY26F



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Key downside risks

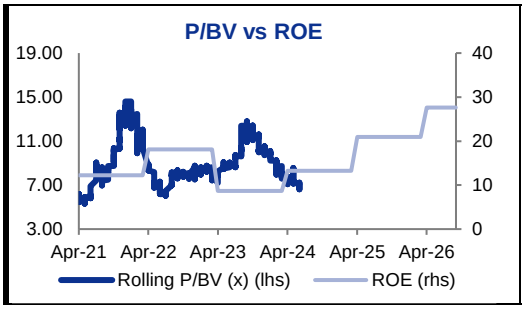
- **Customer Concentration** - One client, Bloom Energy, accounts for a sizeable amount of the business's revenue (more than 75% in FY23). MTAR's customer base in other market segments is relatively small, which presents a risk if these customers decide to choose competitors over the company, postpone orders, reduce their outsourcing of MTAR products, or alter their supply chain strategies negatively. These elements are probably going to have a negative effect on the company's sales, which could have a big effect on its cash flow and financial health. Still, the business has been associated with these clients for as long as 40 years. The company's longstanding relationship with customers such as Bloom Energy, NPCIL, ISRO and DRDO is a result of its consistent and successful supply of complex products to them.
- **Sudden government policy shift –** Green hydrogen and fuel cells are in an evolving space, with governments trying the trial-and-error method to frame an efficient policy. The same happened with Bloom Energy in South Korea when the company decided to shift to the 'auction' model for fuel cells. This resulted in delayed execution, resulting in higher inventory in the books of Bloom Energy and ultimately, MTAR.

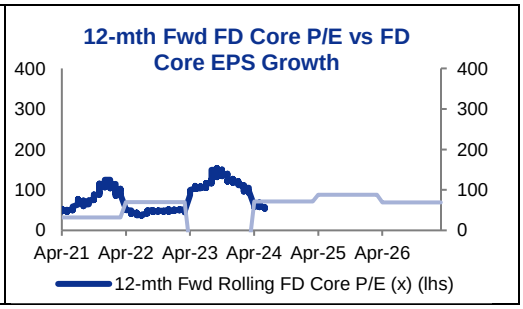
Key management personnel

- **Mr. Parvat Srinivas Reddy (MD & promoter)-** Mr. Reddy has nearly three decades of industry experience in the manufacturing and construction sectors. He has been associated with MTAR for the past 13 years. He holds a bachelor's degree in industrial production engineering from the University of Mysore and a master's degree in science, specializing in industrial engineering from College of Engineering, Louisiana Tech University. Mr. Reddy is instrumental in setting up and growing the company's export vertical.
- **Mr. Subbu Venkata Rama Behara, Chairman-** Mr. Behara is the chairman and independent director. He has more than 20 years of manufacturing industry expertise and held senior leadership positions in various renowned companies, including Tata and Hyundai. He has immense global exposure with proven leadership abilities in transforming organizations by formulating growth strategies. He was recognized as India's 100 most powerful CEOs by The Economic Times. Currently, he is acting as an independent director to companies, including Sona BLW Precision Forgings and KPIT Technologies.

Mr. Gunneswara Rao, CFO- He is responsible for heading finance, mergers & acquisitions, corporate affairs, and corporate strategy at MTAR. He has more than 21 years of experience across the finance spectrum in strategic planning, P&L management, tax compliance, fund raising, financial accounting, and charting out annual operating plans. He was previously associated with Tata Sikorsky Aerospace as its CFO for 11 years.

BY THE NUMBERS





Profit & Loss

(Rs mn)	Mar-23A	Mar-24A	Mar-25F	Mar-26F	Mar-27F
Total Net Revenues	**5,738**	**5,808**	**7,724**	**11,586**	**18,480**
Gross Profit	**3,042**	**2,784**	**4,016**	**5,909**	**9,425**
Operating EBITDA	**1,540**	**1,127**	**1,694**	**2,855**	**4,546**
Depreciation And Amortisation	(187)	(232)	(264)	(284)	(299)
Operating EBIT	**1,353**	**895**	**1,431**	**2,571**	**4,247**
Financial Income/(Expense)	(146)	(223)	(204)	(215)	(225)
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	195	58	57	57	57
Profit Before Tax (pre-EI)	**1,402**	**730**	**1,284**	**2,413**	**4,079**
Exceptional Items					
Pre-tax Profit	**1,402**	**730**	**1,284**	**2,413**	**4,079**
Taxation	(368)	(169)	(321)	(603)	(1,020)
Exceptional Income - post-tax					
Profit After Tax	**1,034**	**561**	**963**	**1,810**	**3,059**
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	**1,034**	**561**	**963**	**1,810**	**3,059**
Recurring Net Profit	1,034	561	963	1,810	3,059
Fully Diluted Recurring Net Profit	**1,034**	**561**	**963**	**1,810**	**3,059**

Cash Flow

(Rs mn)	Mar-23A	Mar-24A	Mar-25F	Mar-26F	Mar-27F
EBITDA	1,735	1,185	1,751	2,912	4,603
Cash Flow from Invt. & Assoc.					
Change In Working Capital	(1,291)	(372)	(846)	(2,021)	(3,238)
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense	(33)	(18)			
Other Operating Cashflow					
Net Interest (Paid)/Received	(14)	(9)	57	57	57
Tax Paid	(323)	(213)	(321)	(603)	(1,020)
Cashflow From Operations	**74**	**574**	**641**	**345**	**402**
Capex	(1,084)	(942)	(750)	(400)	(300)
Disposals Of FAs/subsidiaries					
Acq. Of Subsidiaries/investments					
Other Investing Cashflow	217	385	57	57	57
Cash Flow From Investing	**(867)**	**(556)**	**(693)**	**(343)**	**(243)**
Debt Raised/(repaid)	457	476	131	110	100
Proceeds From Issue Of Shares					
Shares Repurchased					
Dividends Paid					
Preferred Dividends					
Other Financing Cashflow	(137)	(223)	(204)	(215)	(225)
Cash Flow From Financing	**320**	**253**	**(73)**	**(105)**	**(125)**
Total Cash Generated	(473)	270	(125)	(104)	34
Free Cashflow To Equity	**(336)**	**493**	**79**	**111**	**259**
Free Cashflow To Firm	**(793)**	**17**	**(52)**	**1**	**159**

SOURCES: INCRED RESEARCH, COMPANY REPORTS

BY THE NUMBERS…cont'd

Balance Sheet

(Rs mn)	Mar-23A	Mar-24A	Mar-25F	Mar-26F	Mar-27F
Total Cash And Equivalents	312	508	383	280	314
Total Debtors	2,084	1,466	2,222	3,238	5,114
Inventories	3,866	3,476	3,809	5,396	7,797
Total Other Current Assets	430	198	234	308	440
Total Current Assets	**6,692**	**5,648**	**6,648**	**9,221**	**13,664**
Fixed Assets	3,546	4,127	4,235	4,251	4,252
Total Investments					
Intangible Assets	8	7	7	7	7
Total Other Non-Current Assets	113	294	529	529	529
Total Non-current Assets	**3,666**	**4,428**	**4,771**	**4,787**	**4,788**
Short-term Debt	656	939	940	950	950
Current Portion of Long-Term Debt					
Total Creditors	2,183	714	889	1,333	2,126
Other Current Liabilities	577	425	529	741	1,119
Total Current Liabilities	**3,416**	**2,078**	**2,358**	**3,024**	**4,195**
Total Long-term Debt	777	970	1,100	1,200	1,300
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities					
Total Non-current Liabilities	**777**	**970**	**1,100**	**1,200**	**1,300**
Total Provisions	239	265	107	57	57
Total Liabilities	**4,432**	**3,313**	**3,565**	**4,281**	**5,552**
Shareholders Equity	6,201	6,763	7,726	9,536	12,596
Minority Interests					
Total Equity	**6,201**	**6,763**	**7,726**	**9,536**	**12,596**

Key Ratios

	Mar-23A	Mar-24A	Mar-25F	Mar-26F	Mar-27F
Revenue Growth	78.2%	1.2%	33.0%	50.0%	59.5%
Operating EBITDA Growth	63.1%	(26.8%)	50.3%	68.5%	59.2%
Operating EBITDA Margin	26.8%	19.4%	21.9%	24.6%	24.6%
Net Cash Per Share (Rs)	(36.41)	(45.48)	(53.79)	(60.73)	(62.87)
BVPS (Rs)	201.34	219.59	250.86	309.62	408.96
Gross Interest Cover	9.29	4.01	7.01	11.96	18.88
Effective Tax Rate	26.3%	23.2%	25.0%	25.0%	25.0%
Net Dividend Payout Ratio					
Accounts Receivables Days	109.54	111.56	87.14	86.00	82.47
Inventory Days	377.09	443.11	358.62	295.92	265.90
Accounts Payables Days	186.41	174.82	78.90	71.43	69.73
ROIC (%)	13.9%	7.9%	11.1%	16.5%	21.3%
ROCE (%)	19.1%	10.7%	15.3%	23.9%	32.0%
Return On Average Assets	13.4%	7.1%	10.4%	15.5%	19.9%

SOURCES: INCRED RESEARCH, COMPANY REPORTS

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