

## Praj Industries

03 March 2023

### INITIATING COVERAGE

Sector: Sugar	Rating: BUY
CMP: Rs 344	Target Price: Rs 458

### Stock Info

Sensex/Nifty	59,809/ 17,594
Bloomberg	PRJ IN
Equity shares	183
52-wk High/Low	Rs 462/ Rs 289
Face value	Rs 2
M-Cap	Rs 63bn/ USD 1bn
3-m Avg value	USD 2.7mn

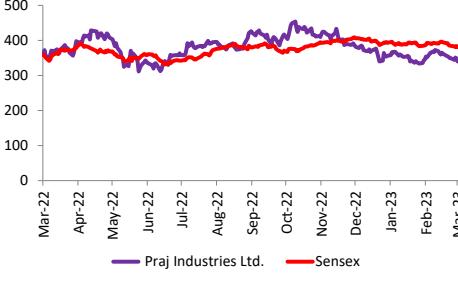
### Financial Snapshot (Rs mn)

Y/E Mar	FY23E	FY24E	FY25E
Net sales	35,706	41,072	47,333
EBITDA	2,967	3,603	4,517
PAT	2,166	2,656	3,360
EPS adj. (Rs)	11.8	14.5	18.3
PE (x)	29.1	23.8	18.8
EV/EBITDA (x)	19.6	16.0	12.6
P/B (x)	6.1	5.4	4.7
RoE (%)	21.1	22.7	24.8
RoCE (%)	28.5	30.7	33.4
D/E (x)	0.0	0.0	0.0
OPM (%)	8.3	8.8	9.5
Dividend yield (%)	0.9	1.4	1.7
Dividend payout (%)	40.7	40.1	37.2

### Shareholding pattern (%)

	Dec'22	Sep'22	Jun'22
Promoter	32.9	32.8	32.8
-Pledged	-	-	-
FII	17.6	17.0	15.9
DII	7.7	10.3	10.0
Others	41.8	39.9	41.3

### Stock Performance (1-year)



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### A proven player with a long growth runway

Praj Industries (PRJ) is a play on the rising demand for bioenergy driven by increasing awareness on climate change and strong global mandates. India's Ethanol Blending Program (EBP) aims at achieving 20% blending (E20) by 2025-26 from 10% currently. The capacity needs to increase 2x over FY22-25E to meet the rising demand, necessitating a capital investment of ~Rs 300bn. New opportunities are ushering in the form of ethanol blending in diesel and flex fuel engines that essentially work with ethanol blend in excess of 20%. PRJ, a market leader, holds a dominant >50% share in 1G ethanol, and it is the only player in 2G ethanol. The company is also scaling up its non-bioenergy business (30% of FY22 sales) by a) establishing a strong foothold in modularisation business for its Critical Process Equipment & Skids (CPES) segment, b) expanding offerings from its HiPurity business, and c) leveraging its multi-disciplinary engineering strengths and expertise in manufacturing to tap export opportunities. We believe PRJ's key strengths lie in its 1) superior fundamentals, 2) dominant market share, 3) fast growth, and 4) higher return profile. We estimate 29%/35%/33% revenue/EBITDA/PAT CAGR over FY22-25E for PRJ, with RoE improving to 25.5% in FY25E from 16.4% in FY22 on superior profitability. PRJ has been historically cash positive, which renders it the ability to invest in growth. Valuations are attractive at 18.8x P/E on FY25E. We initiate coverage with a BUY rating and a target price of Rs 458 (upside 33%), based on 25x FY25E P/E.

**A decade full of meaningful opportunities:** While PRJ continues to dominate ethanol capex in India, newer opportunities are emerging in the form of sustainable aviation fuel (SAF), marine biofuels and bio hydrogen. As part of its Bio-Prism portfolio, PRJ is developing technologies to produce renewable chemicals and materials (RCM), which are proving to be promising solutions to global majors exploring low-carbon alternatives in pursuit of carbon neutrality. PRJ, with its technical prowess, will likely be at the forefront capturing these opportunities.

**Robust order book supports continuity:** PRJ's orderbook of Rs 33.8bn is >1x TTM revenues, executable over the next 12-18 months. Its bioenergy segment constitutes nearly 81% of its order book share. PRJ currently enjoys >50% market share in the bioethanol segment. Rising demand for ethanol beyond E20 gives potential order inflow visibility of Rs 60-70bn over the next 5 years. We have built in 29% revenue CAGR for PRJ over FY22-25E.

**A great franchise available at attractive valuations – Initiating BUY:** PRJ's 20% CAGR in revenue over FY17-22 was on the back of its strong order inflow in 1G ethanol. Over FY22-25E, we estimate a 29% revenue CAGR, led by a healthy order book and strong end-user capex visibility. EBITDA margin could expand 120bps over FY22-25E, as management shifts focus on profitability from volumes. We estimate EBITDA/PAT CAGR of 35%/33%, respectively. We initiate coverage on PRJ with a BUY rating and a target price of Rs 458, based on 25x FY25E P/E. The stock currently trades at 18.8x FY25E P/E. PRJ has been trading at 10x-35x one-year forward P/E over the last five years where stock price was suppressed for 2 years during Covid. The last 3-year average is ~25x.

**Key risks:** Change in government's ethanol blending policy, inability to pass through RM cost volatility, technological obsolescence.

Investors are advised to refer disclosures made at the end of the research report.

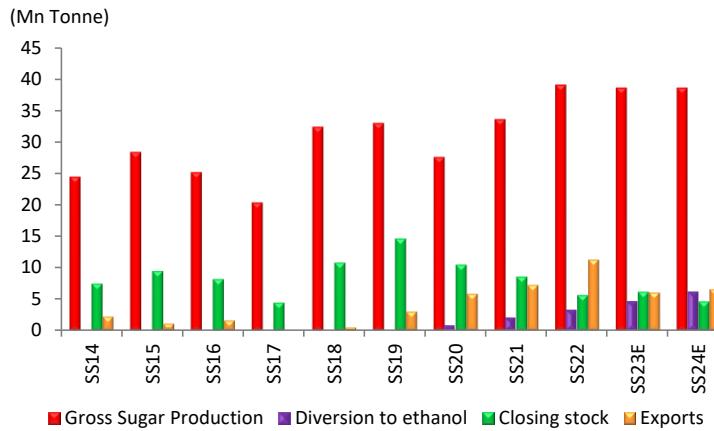
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## Story in Charts

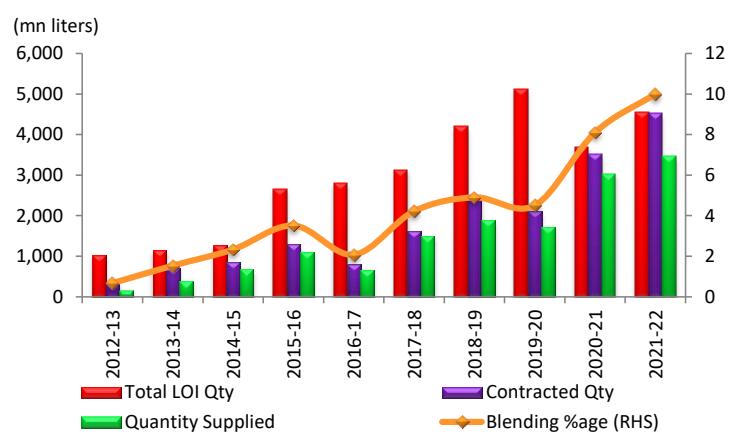
### Industry

**Exhibit 1: Sugar production flat as more is diverted to ethanol**



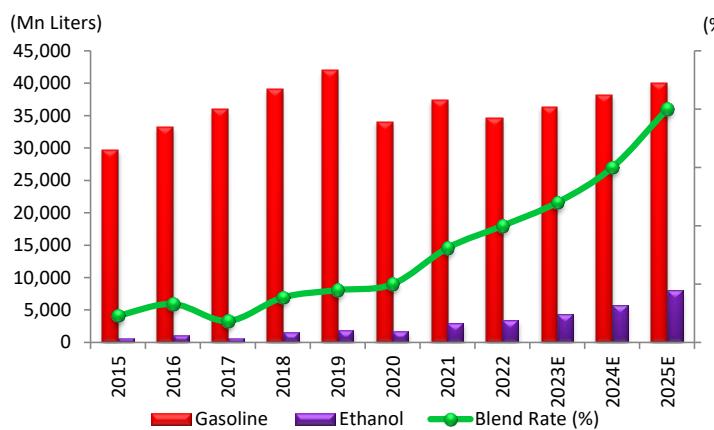
Source: Company, Systematix Institutional Research

**Exhibit 2: India achieved 10% blending target in ESY 2021-22**



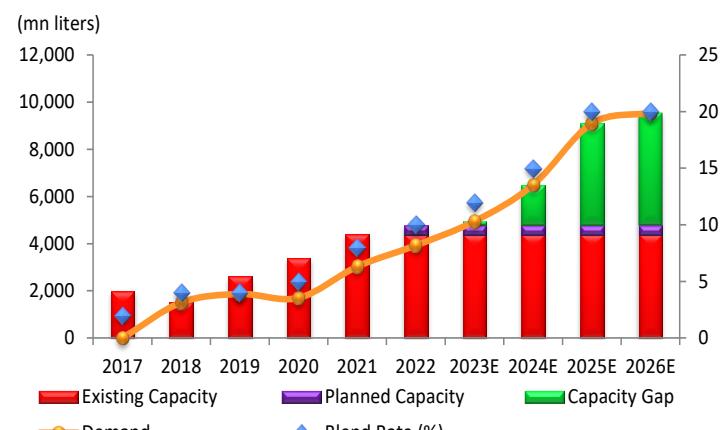
Source: Company, Systematix Institutional Research

**Exhibit 3: Ethanol demand to increase at CAGR 32% over 2022-25E**



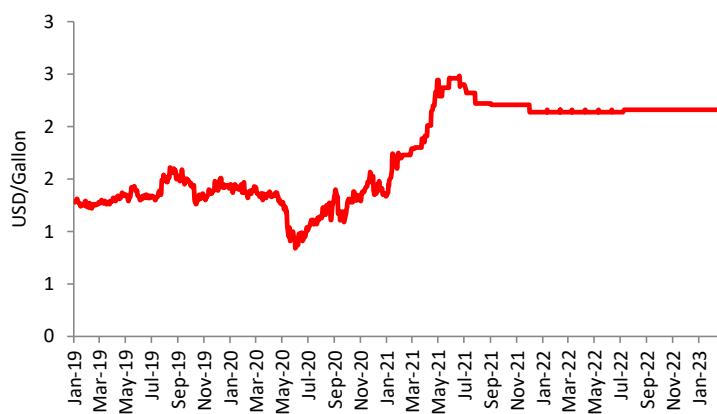
Source: Company, Systematix Institutional Research

**Exhibit 4: Ethanol capacity to double by 2026**



Source: Company, Systematix Institutional Research

**Exhibit 5: Ethanol futures prices at 7-year high**



Source: Company, Systematix Institutional Research

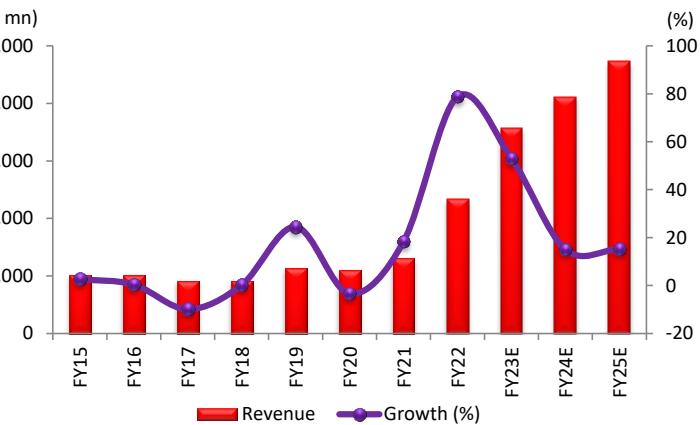
**Exhibit 6: Expect inventory at 2.5 months of domestic consumption**



Source: Company, Systematix Institutional Research

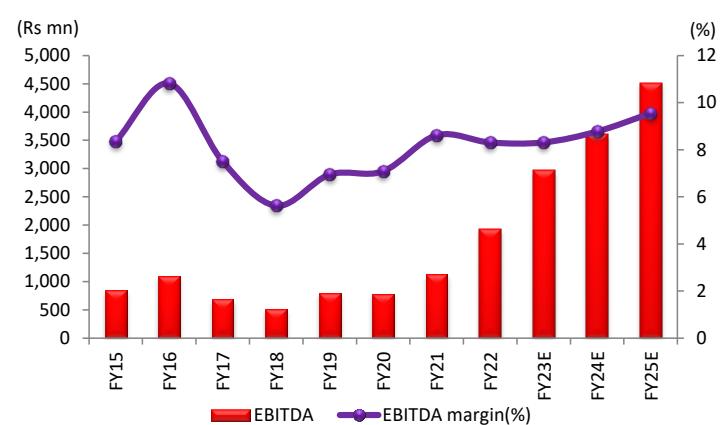
## Company

**Exhibit 7: Revenue to grow at CAGR 27% over FY22-25E**



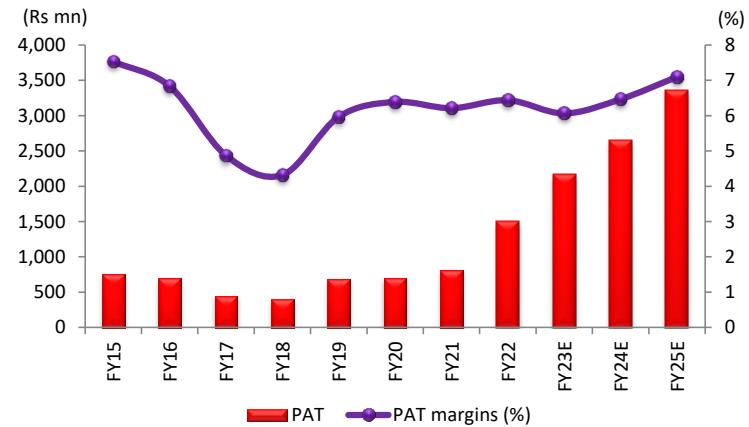
Source: Company, Systematix Institutional Research

**Exhibit 8: EBITDA CAGR 33% over FY22-25E; margins up tick 120bps**



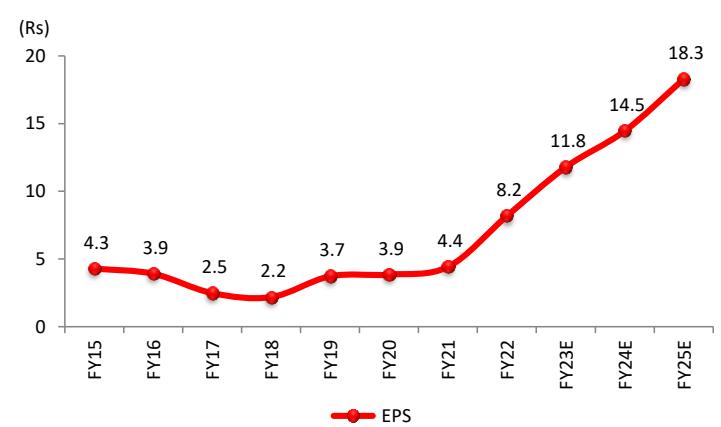
Source: Company, Systematix Institutional Research

**Exhibit 9: Higher margins to drive profitability**



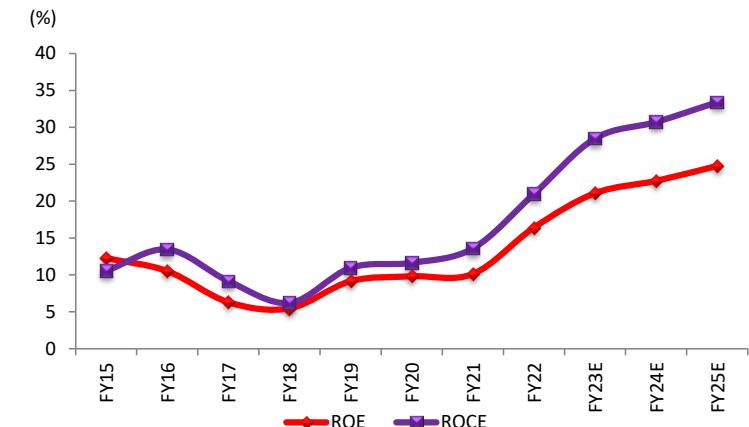
Source: Company, Systematix Institutional Research

**Exhibit 10: Expect earnings CAGR of 31% over FY22-25E**



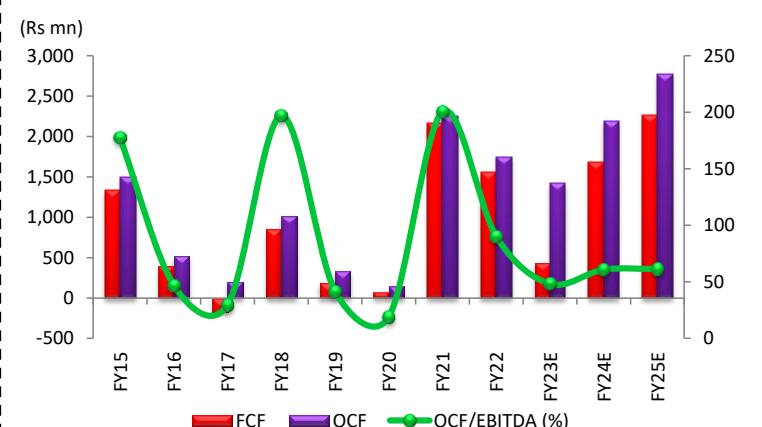
Source: Company, Systematix Institutional Research

**Exhibit 11: Return ratios to further improve significantly**

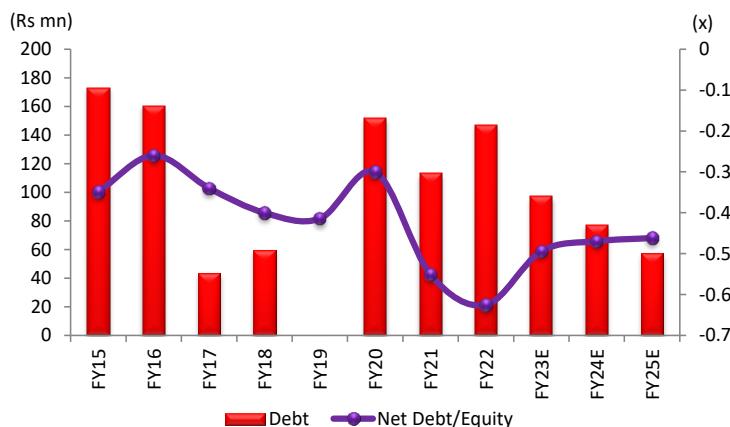


Source: Company, Systematix Institutional Research

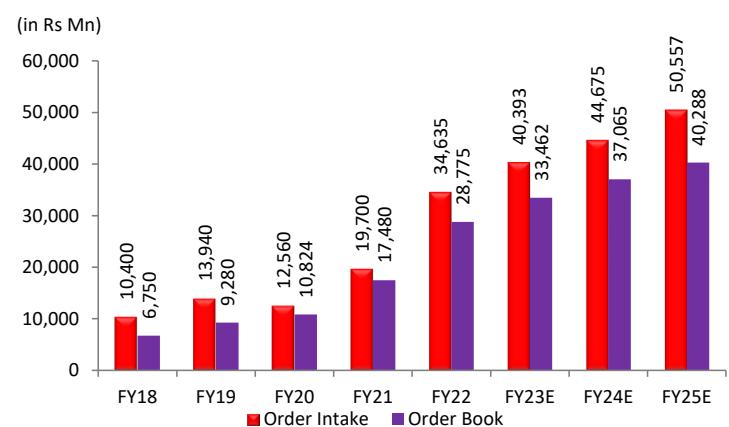
**Exhibit 12: Profitability to drive better cash flows**



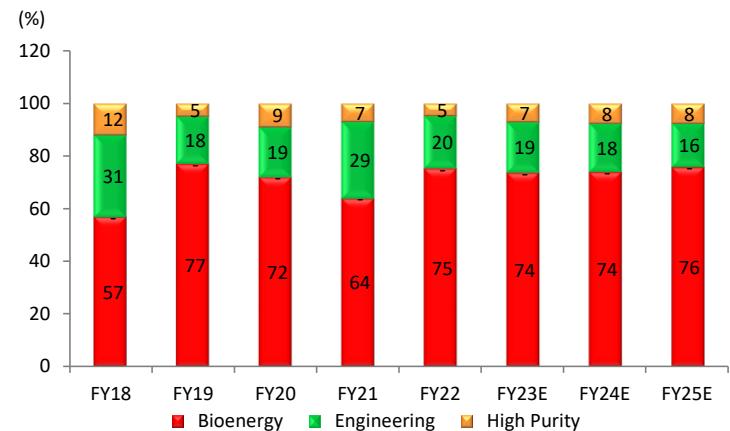
Source: Company, Systematix Institutional Research

**Exhibit 13: Stable Cash flow to ensure net cash balance sheet**

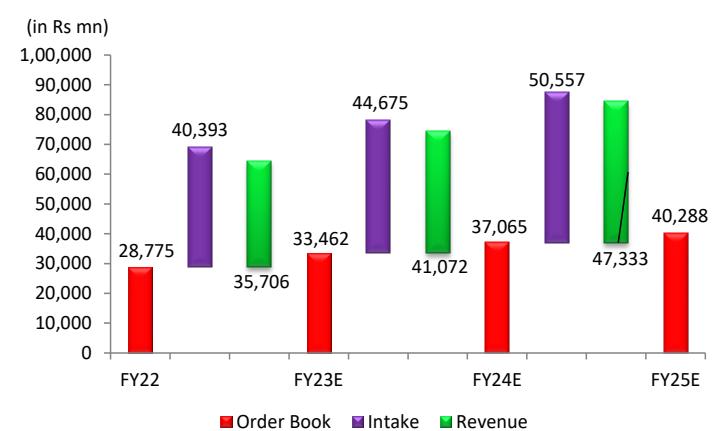
Source: Company, Systematix Institutional Research

**Exhibit 14: Order backlog to grow CAGR 12% over FY22-FY25E**

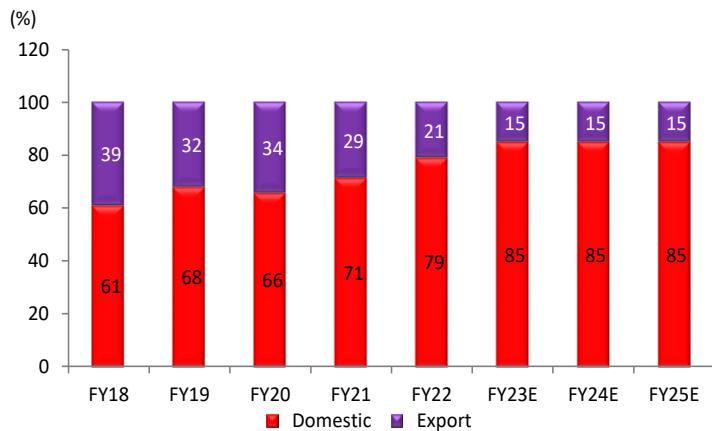
Source: Company, Systematix Institutional Research

**Exhibit 15: Bioenergy to be a major contributor to order book**

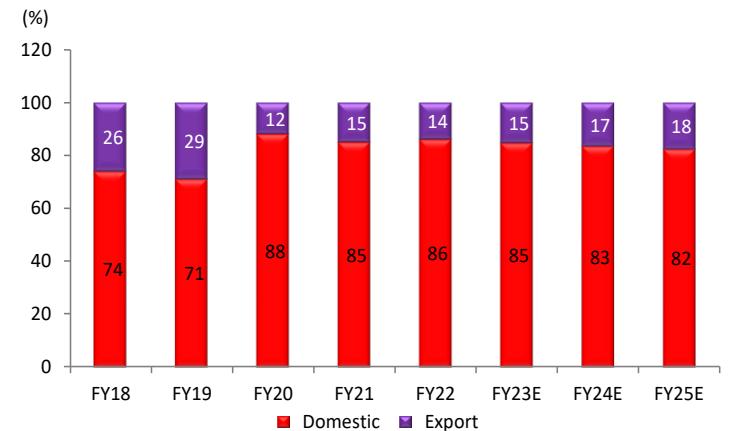
Source: Company, Systematix Institutional Research

**Exhibit 16: Strong order book and intake to ensure revenue growth**

Source: Company, Systematix Institutional Research

**Exhibit 17: Domestic-Export revenue split**

Source: Company, Systematix Institutional Research

**Exhibit 18: Domestic-Export order book split**

Source: Company, Systematix Institutional Research

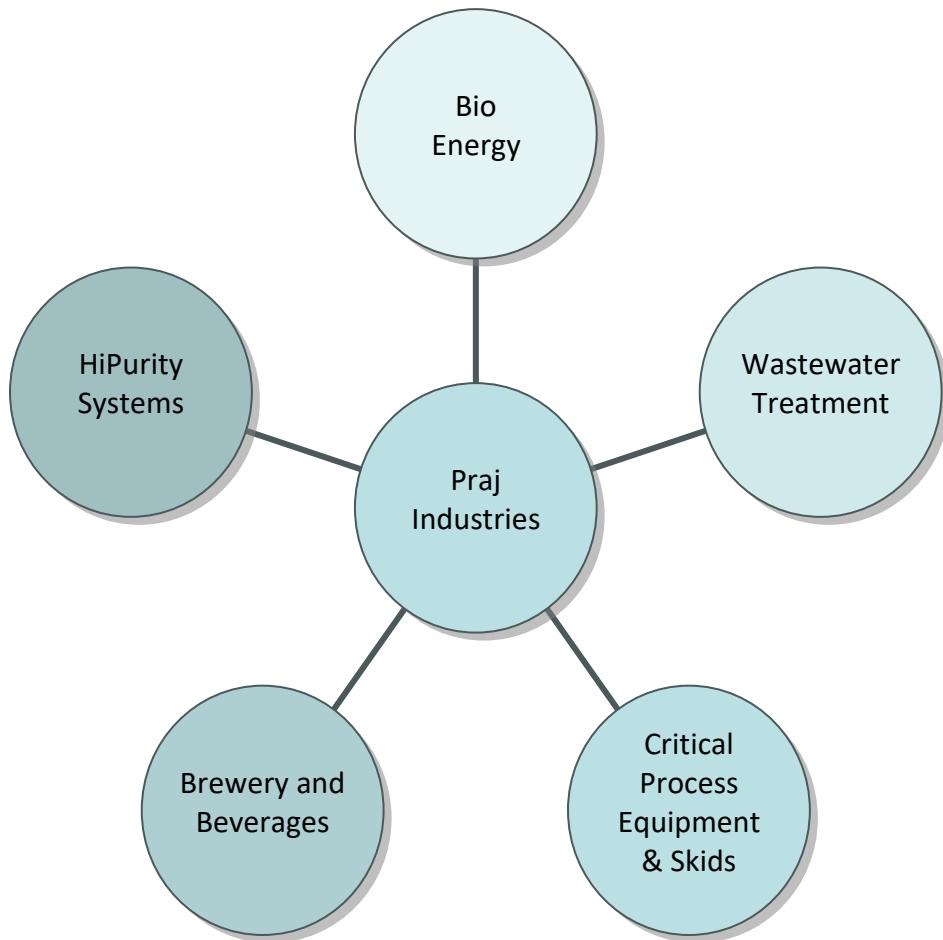
## Investment Rationale

### A business model built over four decades

PRJ is the most accomplished industrial biotechnology company that is at the forefront of bioeconomy on a global scale. The company deals in Alcohol/Fuel Ethanol and Brewery Plants, Water and Wastewater Treatment Plants, Critical Process Equipment System, High Purity Systems, BioProducts (Livestock Health and Nutrition Products), and Customized Research Service & Solutions with segments, delivering value to its customers through its TEMPO (Technology, Engineering, Project manufacturing and operations) model. The company also provides O&M services for the life cycle. Over last three decades, the company has been focusing on environment, energy, and agri-process solutions with over 750 customer references across 75 countries and 5 continents.

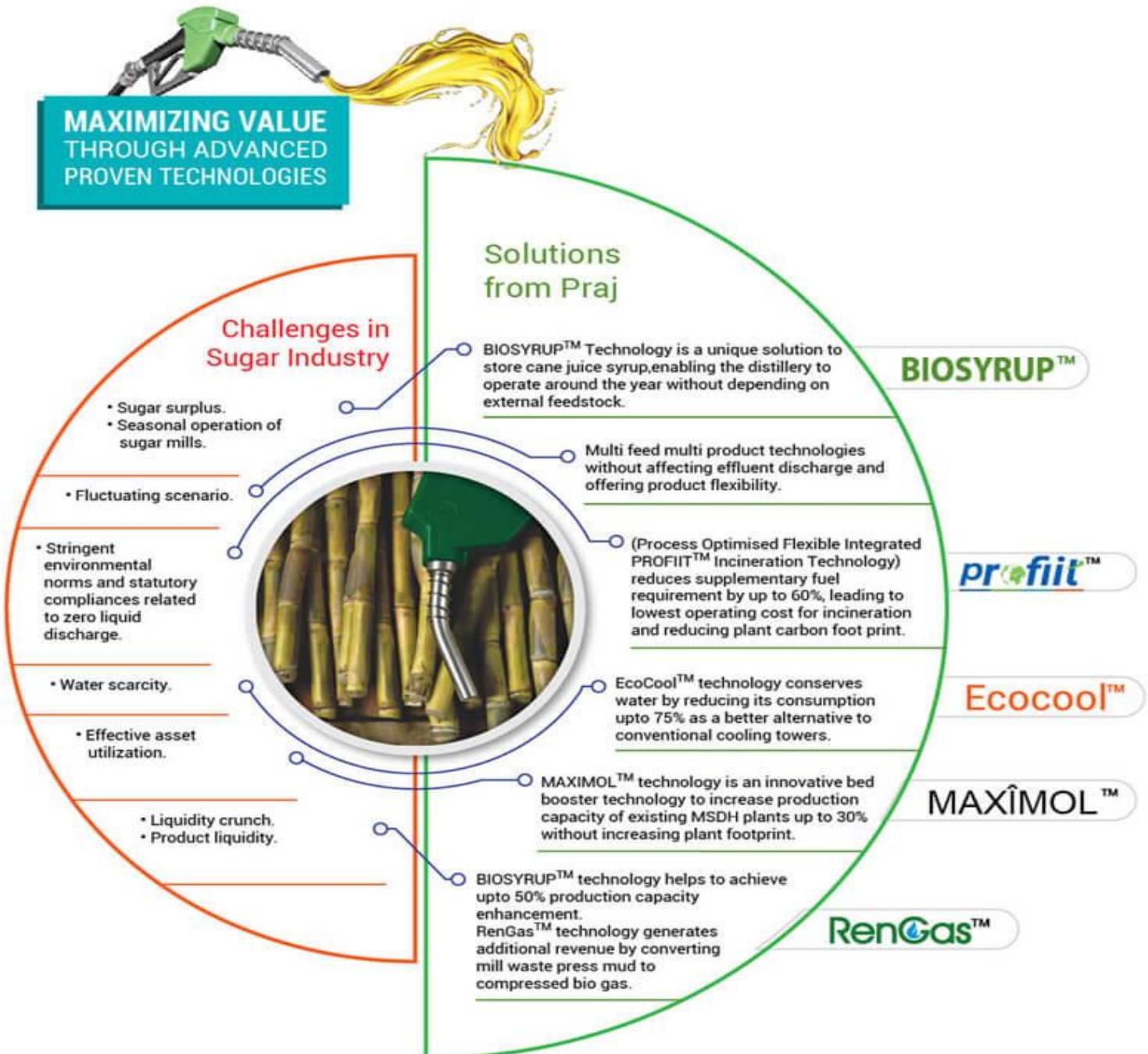
PRJ is a market leader in the domestic 1G ethanol segment and one of the key players in the 2G ethanol segment.

**Exhibit 19: Business model - Praj Industries**



Source: Company, Systematix Institutional Research

## Exhibit 20: Praj's technology deployment across businesses



Source: Company, Systematix Institutional Research

## Ethanol: An unmissable opportunity

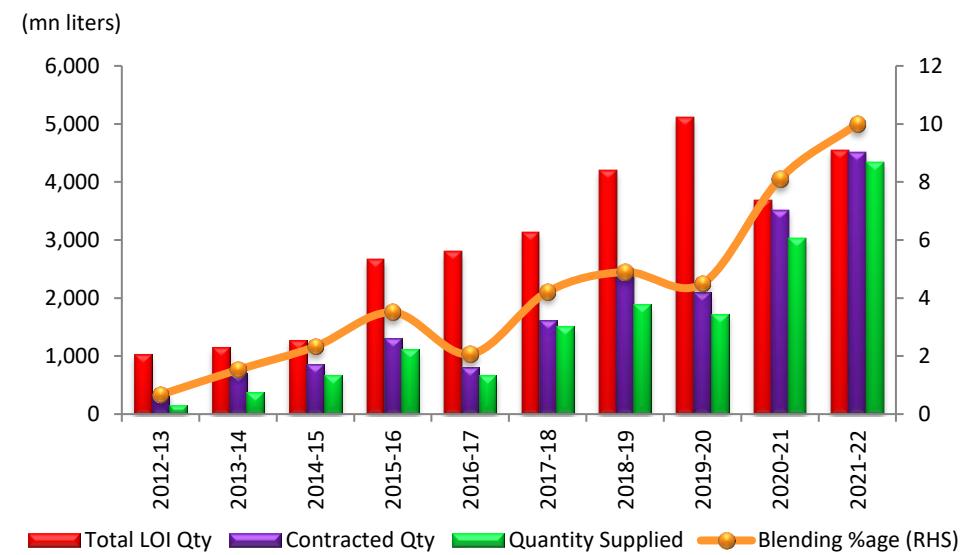
### India's ethanol industry conservatively valued at USD 16.5bn by 2030

India's ethanol market was valued at USD 2.8bn in 2021 and is expected to touch USD 5.6bn by 2027 at 12.7% CAGR, as per industry reports. International Energy Agency (IEA), a Paris-based autonomous intergovernmental organisation has forecast 15% CAGR in India's biofuel market over 2021-2026. Oil marketing companies (OMCs) had set a 10% blending target for Ethanol Supply Year (ESY) 2021-22, which has been achieved by Jun'22 (planned to achieve by Nov'22). By 2025-26, they have targeted 20% blending and even if this target were to sustain at 20% until 2030, the country would require 11,900mn litres of ethanol. Other industries like chemicals, cosmetics, alcohol would generate an additional 4,000mn litres of demand as per Niti Aayog. Hence, we believe, a total requirement of 15,900mn litres would translate into a USD 16.5bn ethanol economic opportunity. Further, the Indian government has directed the automobile industry to launch flex-fuel cars, which could consume up to 85% of ethanol. In such a scenario, we expect ethanol consumption to triple and the industry to expand to USD 40-45bn by 2030.

### Ethanol blending gathers pace

Even though the blending mandate was first announced in 2003, ethanol production never picked pace due to capacity constraints. Until 2018, ethanol had an installed capacity of 1.5-1.7bn litres. Sugar mills preferred to sell their entire ethanol to distilleries to fetch better prices. It was difficult for OMCs to locally procure ethanol at government-mandated rates, as state governments imposed heavy taxes, given the wide use of this product in the liquor industry. After the National Biofuel Policy was announced in May 2018, new capacities were commissioned, thereby improving the blending rates. As of 30 November 2022, installed capacity increased to ~6.0bn litres, which operated at peak 75-80% utilisation. To achieve 20% blending by ESY 2025-26, India would need to have install 14.0-15.0bn litres of ethanol capacity.

### Exhibit 21: Blending reached 10% target in ESY2021-22

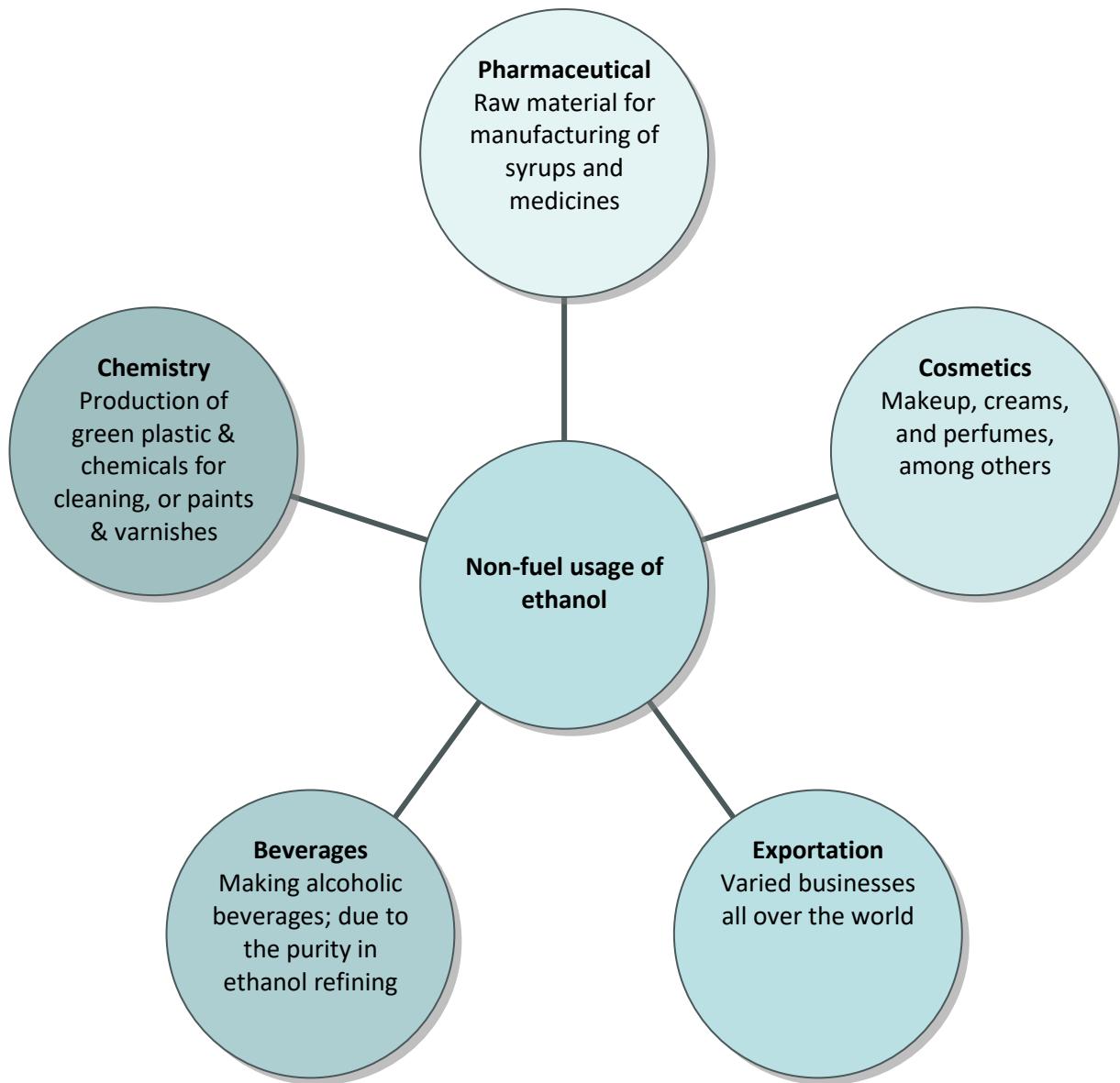


Source: Ministry of Petroleum, Government of India, Systematix Institutional Research

### Non-fuel usage of ethanol

Apart from blending with petrol, ethanol has varied applications and its usage is increasing as industries look to substitute toxic chemicals with greener chemistries. The non-fuel demand for ethanol is pegged at 3.3bn litres by CY26, growing at an 18% CAGR.

Exhibit 22: Ethanol has varied usages across fast-growing industries



Source: Industry Reports, Systematix Institutional Research

### Demand to grow at 17% over ESY23-26

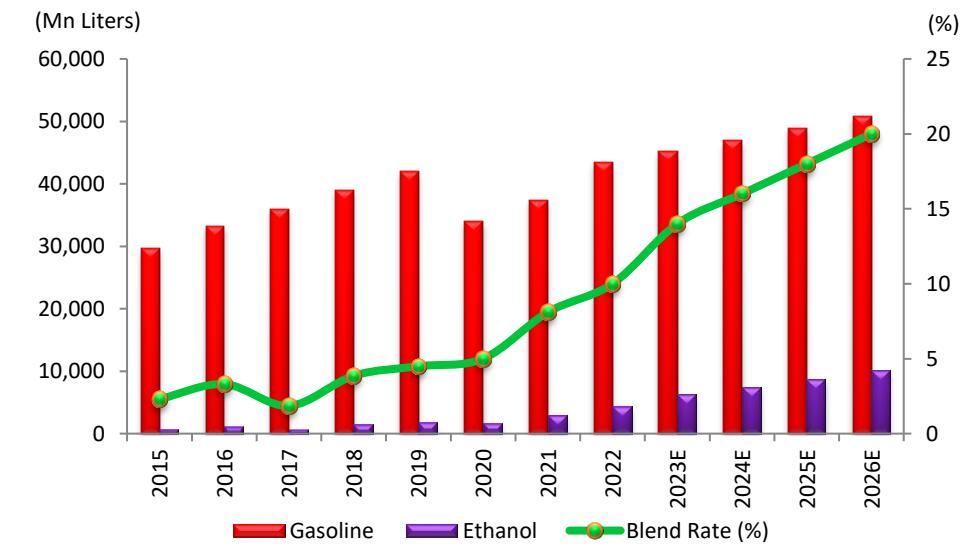
We estimate 1,500mn litres of additional capacity in FY23, as new ethanol production capacities pick pace. This implies likely ethanol production of 6,300mn litres by ESY22-23E, equivalent to 14% blend levels only. Hence, we believe ethanol capacity will likely need to expand on average 13% over ESY23-26 to meet the 20% blending target. Further, ethanol production would need to increase from 4,340 mn litres in ESY22 to 10,154mn litres by ESY26 to achieve the 20% blending target. We believe this milestone would be challenging, as only 17-18% blending seems achievable by ESY26. However, we are confident 20% blending, for which 10,600mn litres of ethanol would be required could be achieved by ESY27, which implies 14% CAGR in near-term demand. If blending rates sustain at 20% until ESY30, ethanol demand could increase to 11,900mn litres, registering 9% CAGR over a long-term scenario of ESY23-30.

#### Exhibit 23: For achieving 20% blending target by ESY26 ethanol production has to grow at 17% CAGR over ESY23-26E

ESY (mn liters)	2021-22	2022-23E	YoY	2025-26E	CAGR (2023-26)
Gasoline	43,400	45,136	4%	50,772	4%
Ethanol	4,340	6,319	46%	10,154	17%
Blend Rate (%)	10	14		20	

Source: Ministry of Petroleum, Government of India, Systematix Institutional Research (ESY - currently defined as ethanol supply period from 1st December of a year to 30th November of the following year)

#### Exhibit 24: Ethanol demand CAGR of 17% over ESY23-26E



Source: Ministry of Petroleum, Government of India, Systematix Institutional Research

### Capacity must double over ESY22-25 to achieve 20% blending

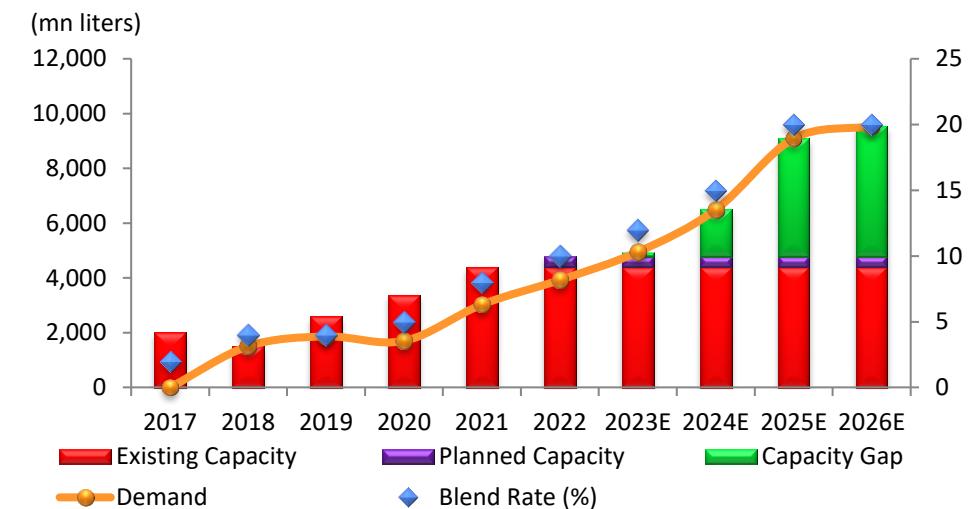
We anticipate a further 5,100mn litres of capacity being created over the next two years, as new ethanol production capacities are set up at a fast pace. This implies 6,000mn litres of ethanol production by ESY23E, equivalent to 14% blend levels only. By ESY26, the demand for ethanol would need to increase to 10,154mn litres to achieve a 20% blending rate. Ethanol capacity must expand at 24% on average p.a. until ESY26 to meet the 20% blending target.

#### Exhibit 25: Ethanol capacity augmentation needed in order to achieve 20% blending by 2025-26

		Ethanol supply by 2025-26		
Ethanol Supply (in mn litres)		Fuel ethanol	Other uses	Total
(A) From sugar sector		6,547	1,500	8,047
(B) From grain/ maize, etc.		3,607	2,000	5,607
<b>Total supply</b>		<b>10,154</b>	<b>3,500</b>	<b>13,654</b>
		Capacity augmentation		
Ethanol capacity (in mn litres)		Molasses based	Grain based	Total
Existing ethanol/alcohol capacity		6,195 (263 distilleries)	3,268 (123 distilleries)	9,463 (386 distilleries)
Proposed capacity addition from sanctioned projects		1,313	3,836	5,159
New capacity to be added		539	5,531	6,070
<b>Total capacity required by Nov'26 to reach 13,654mn litres</b>		<b>8,047</b>	<b>12,635</b>	<b>20,682</b>

Source: Industry Reports, Systematix Institutional Research

#### Exhibit 26: Ethanol capacity to double by ESY26 from ESY23



Source: Ministry of Petroleum, Government of India, Systematix Institutional Research

## An Integrated Bio-Refinery Model

**The concept of an integrated Bio-Refinery model or Bio-park will encompass integration of the following facilities:**

1. 2G Ethanol plant: 2G ethanol plant can convert agricultural residues like rice straw, wheat straw, energy crops etc. to ethanol. With around 160MMT of surplus agricultural residues generated in India annually, 2G ethanol plants offer significant opportunity in India. A 100 KLPD plant can utilize 200K tonne pa of agricultural residue to generate around 30 mn litres of ethanol pa.
2. Grain based 1G Ethanol Plant: Grain based 1G Ethanol Plant can convert the starch present in grains like rice, corn etc. to ethanol. Some by-products like CO2 & Dried Distillers Grains with Solubles (DDGS) are also generated which can generate additional revenue. A 100 KLPD 1G plant is estimated to incur capital expenditure of around Rs 1.7-2.0bn with a land requirement of ~20 acres.
3. CBG Plant: Compressed Bio Gas (CBG) or Bio-CNG can be produced from agricultural residue, Municipal Solid Waste (MSW), cow dung etc. CBG can easily replace CNG. The bio-manure produced in the plant is an additional source of revenue. The estimated capital expenditure for a 15 tonne per day CBG plant is around Rs 0.6-1.0 bn, depending on the feedstock and the land requirement of ~15 acres.
4. Production of Chemicals: Production of bio-chemicals in the Bio-refinery will improve its economics significantly. Some technologies for production of bio-chemicals are ready for commercialization while many are still in development stage.
5. Cogeneration Plant: Setting up of a Cogen plant by using Lignin (generated in 2G plant) & Biogas (CBG plant) can ensure continuous & reliable power supply to the Bio-Refinery.

**Some of the advantages of Integration of various plants in a Bio-Refinery are:**

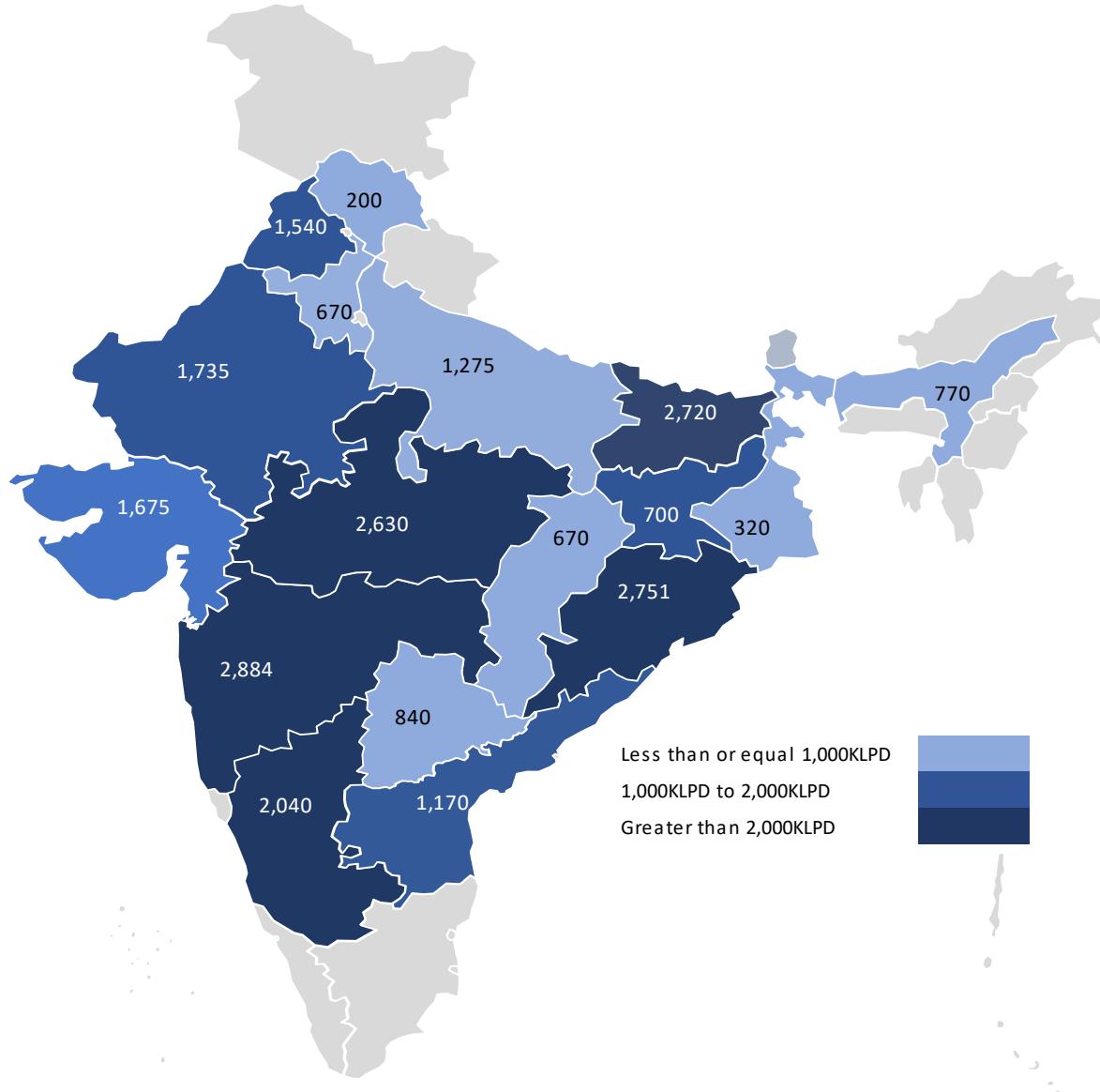
- Improved economics with reduced cost of feedstock and sustenance of biomass supply-chain on long term basis. With the setting up of 1G, 2G and CBG plants in the same premises, there can be a common source/agreement for supply of grains (for 1G Ethanol Plant) and supply of waste straw/agricultural residue generated (feedstock for 2G/CBG Plants).
- Optimization of common resources like Utilities (Cooling tower, Boiler, ETP etc.) & Offsite facilities (tankages, loading Gantry, firefighting system etc.) can reduce capital expenditure.
- Integration of 1G ethanol and CBG plants with established & proven technologies can bring in economic viability & sustainability of the Bio-Refinery since 2G ethanol technologies are still in the maturing stage.
- Optimization of Equipment Spares & Manpower required for Operation / Maintenance of the plants.

## Bioenergy – 1G ethanol

### Capacity augmentation in full force

Government has approved 269 distillery projects between April and December 2022. The approved projects are expected to be augmented over the next 12 months. Additional, 160 projects have been proposed by various companies, which are under environmental clearance. These projects to have a combined capacity of 25,935 KLPD with a capital outlay of Rs 212bn.

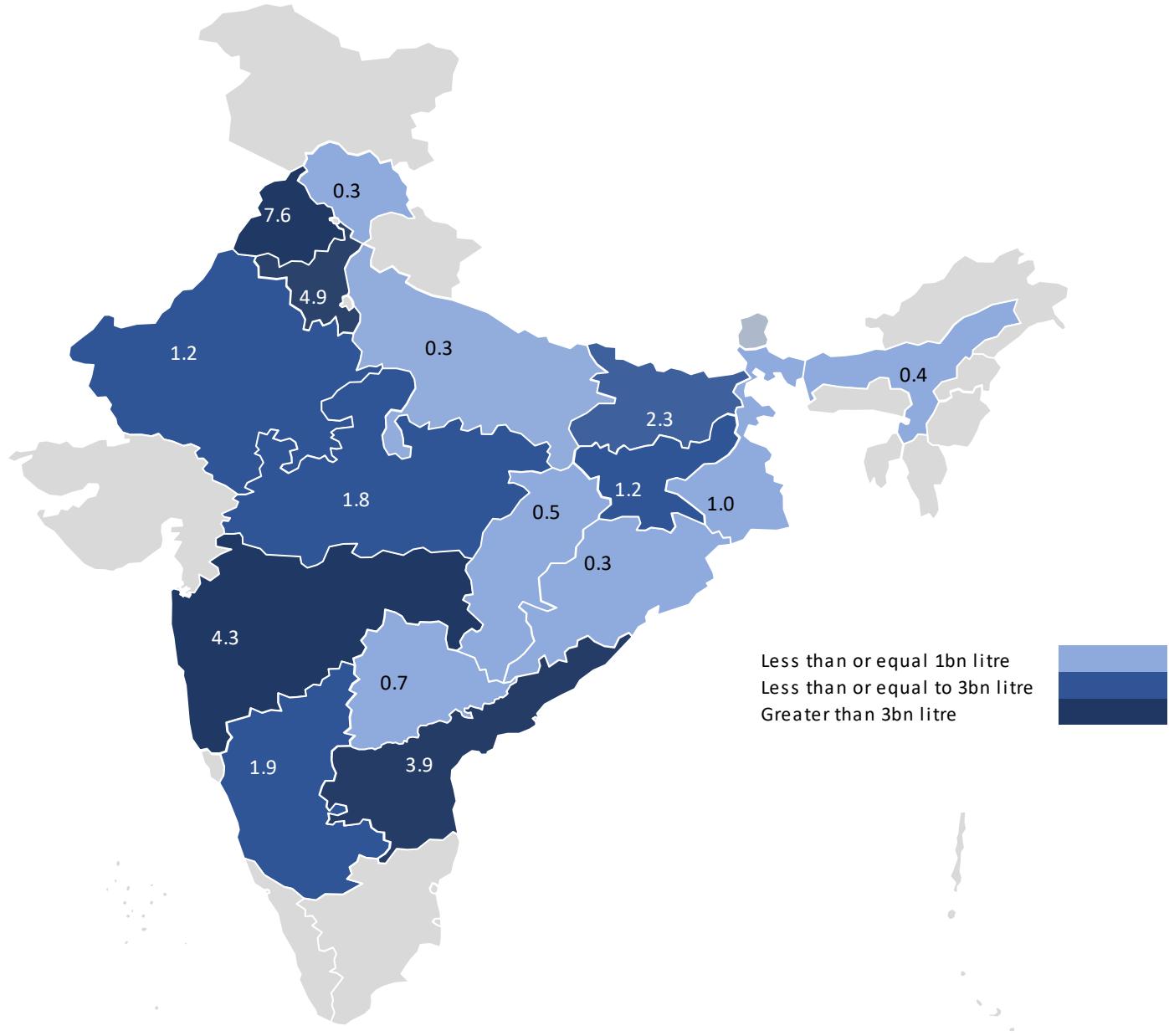
**Exhibit 27: Capacities proposed between April and December 2022 are awaiting approval**



Source: DFPD, Government of India, Systematix Institutional Research

**Molasses-based capacity:** Current molasses-based capacity is pegged at 6.2bn litres, with sugar-growing states of Maharashtra (36% of total molasses capacity), Karnataka (16%) and UP (33%) together accounting for 86% of the total molasses-based capacity. Over the next 18 months, we expect capacity addition of ~3,200 KLPD at an outlay of Rs 24bn.

#### Exhibit 28: Molasses-based capacity

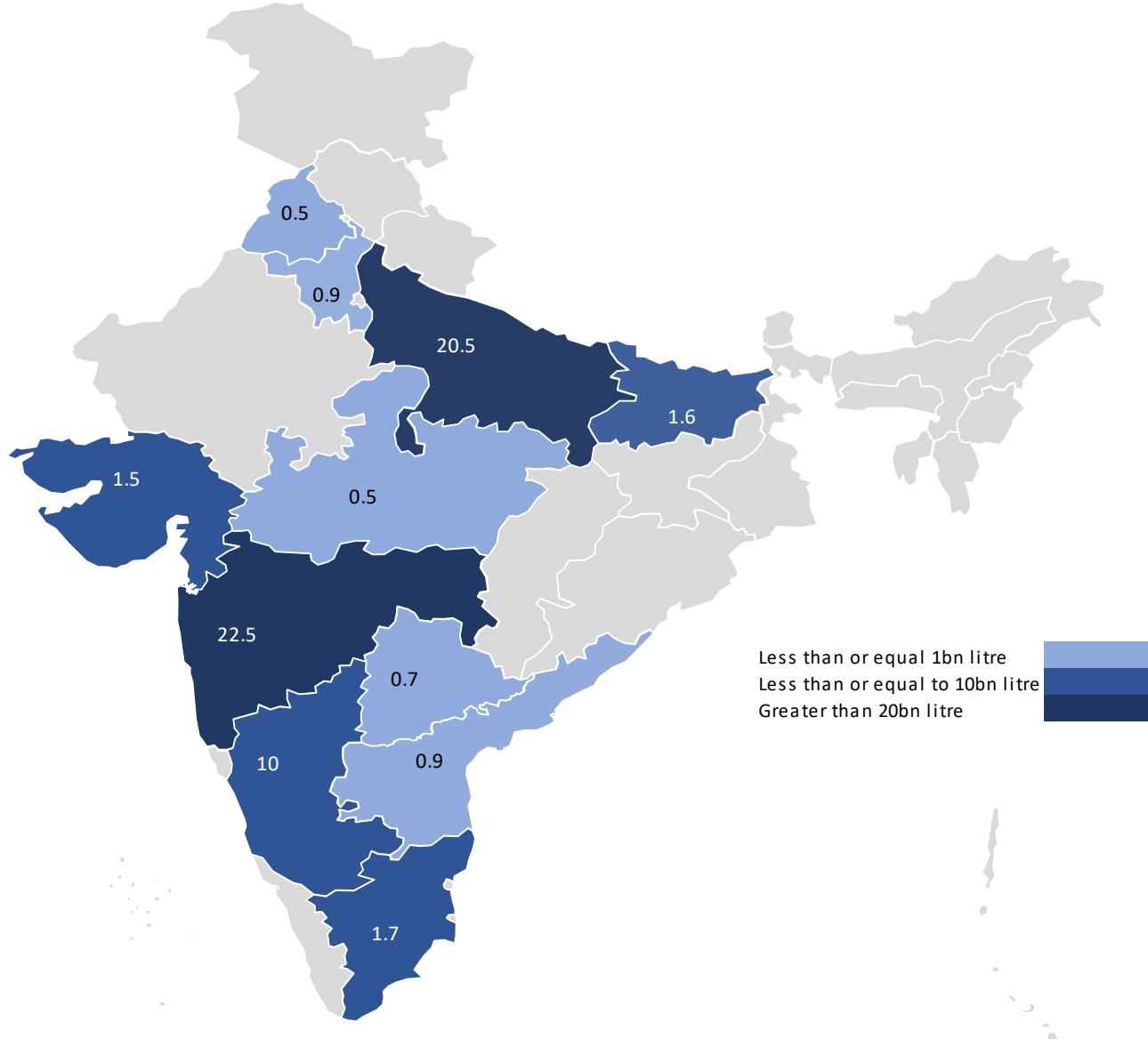


Source: DFPD, Government of India, Systematix Institutional Research

**Grain-based capacity:** Currently, India has 3.8bn litres of grain-based ethanol capacity. Going forward, 2,720KLPD of capacity would be commissioned at an investment of ~Rs 22bn.

**Dual-feed capacity:** Dual feed distilleries that produce ethanol from molasses and grain can provide ethanol throughout the year. We note that there are only about 25 dual-feed distilleries in India. We expect 840 KLPD of capacity addition at an investment of Rs 7.3bn in the same over the next 18-24 months.

#### Exhibit 29: Grain-based capacity



Source: DFPD, Government of India, Systematix Institutional Research

### PRJ's 1G ethanol array

PRJ's dominance in the 1G ethanol segment makes it one of the top picks to benefit from the ethanol wave. Per management, currently 60% of India's ethanol production capacity uses PRJ's technologies. With a dominant market share and size, the company is well placed to leverage the National Policy of Biofuels that targets 20% blended fuel by 2025, in our view. To further claim and align itself with the goals, companies have already started building and expanding their existing distillery capacities.

Despite increasing competition, we expect PRJ to maintain >50% market share, going forward, which would create sizable upsides in terms of order book from the bio energy segment.

### Robust orderbook supports continuity

The company's consistently strong order book has had steady order inflows across quarters, with 50-55% market share in new order inflows in the industry. Its order book of Rs 33.8bn was >1x TTM revenue as of 31 Dec 2022. The bioenergy sector forms the dominant share of the order book, accounting for 81% of the total, followed by the engineering sector which accounts for 18%. The HPS segment constituted mere 1% share.

PRJ's existing order book ensures revenue visibility for the next 2-3 years. Over FY22-25E, we estimate revenue CAGR of 29%, propelled by capacity addition in 1G ethanol in the domestic market and 2G ethanol in international markets (Europe and Canada).

## Global mandates for clean energy have opened export doors

### Huge opportunity to leverage its bio-technology prowess in export market

As global awareness on carbon intensity rises, low carbon biofuels are finding increasing market traction. PRJ's capability to customise solutions in international markets is gaining acceptance, as existing and new producers shift focus to low carbon and energy footprint ethanol production. This makes sense from both economic and environmental perspectives.

The company has already tasted success with its first breakthrough order from Brazil, which has helped it in developing strong local partnerships, which it expects to leverage to make definitive inroads into Brazil's starchy feedstock-based ethanol markets. Several Latin American countries too are witnessing increased demand for ethanol and the company is well poised to strengthen its leadership position in these markets. PRJ's unique technology solution, BIOSYRUP is attracting a lot of attention globally, especially from Brazil.

With several projects commissioned in North America, PRJ is now witnessing strong traction in enquiries for low carbon ethanol from the market. As of CY22, there were 192 distilleries in the US producing 66bn litres/year of ethanol. We perceive PRJ will likely have an export opportunity here, going forward, as existing plants may undergo modernisation while building new ones. Many other countries are contemplating enhancing the share of biofuels in their energy mix.

The European Commission has revisited its existing energy, transport, and climate legislation in order to align them with the goal of achieving carbon neutrality by 2050. According to the suggested amendments of RED II, advanced biofuels will likely have a 2.2% contribution in the transportation sector by 2030. This would amount to 2.75bn litres of capacity for all advanced biofuels, which translates into an opportunity of 40-50 ethanol plants of cumulative 200 KLPD capacity.

## Exhibit 30: Mandate for ethanol blending in various countries

Country	Mandate for ethanol blends	Program	Implementation by	Vehicle type
Brazil	The national policy of Brazil continues the mandate for blending 18-27.5% of ethanol in gasoline, which originally started in 2015. This is currently at 27%. On the biodiesel front, the country plans to increase its mix requirement to 15% starting Apr'23, which would translate into 30bn tonnes of soybean requirement in CY23	National biofuels policy (Dec 2017)	Ministry of Mines and Energy (MME)	Mainly flex. Motorbikes and other two-wheeler engines use E27
US	The clean air Act requires EPA to set the Renewable Fuel Standards (RFS) volume requirements annually. EPA updates volume requirements each year, based on fuel availability. In CY22 the country had targeted ~20.63bn gallons of renewable blending, up from 19bn litres in CY21 and 17bn litres in CY20. The proposed target for CY23 is pegged at 20.82bn liters, 21.87bn liters in CY24 and 22.86bn gallons CY25	Renewable fuel standard (RFS) program	Environmental Protection Agency (EPA)	Primarily normal; Flex for E30 or E85 only.
EU	By 2030, EU aims to increase the share of renewable energy in transportation to at least 14%, including a minimum share of 3.5% of advanced biofuels.	Renewable energy directive	European Commission	Flex and normal
UK	E10 rolled out in 2021; E5 is only available as a protection grade at UK filling stations	Renewable energy directive	Department for Transport	Primarily normal
China	In September 2017, the Chinese government announced legislation proposing the use of ethanol in fuel for all of China, with a 10% ethanol blending target. Further, the country mandates that fuel for its transport sector must have a 15% biodiesel component, which was set to increase to 20% by December 2022	Fuel quality standards	National Energy Administration	Primarily normal
Thailand	Alternative Energy Development Plan (AEDP) targets the share of renewable and alternative energy from biofuel to increase from 7% of total fuel energy use in 2015 to 25% in 2036.	AEDP	Ministry of Energy	Primarily normal
Indonesia	Indonesia has a biodiesel blending mandate at 30% and in which it raised its biodiesel allocation volume to 10.1bn litres in CY22. As such the country plans to blend 30% palm oil-based fuel into its biodiesel to lower its fuel imports and boost domestic production of palm oil. The target is set to increase it to 35% for CY23 according to industry reports	FAME	Government of Indonesia	Primarily normal
Canada	Emissions Reduction Plan requires gasoline and diesel suppliers to decrease the carbon intensity and pollution of these fuels by ~15% by 2030. In line with this, different states are mandated to meet different blending targets by 2030.e.g., in Ontario, the renewable content requirement till 2025 is pegged at 11%, 13% by 2028, and 15% by 2030 and onwards.	The Clean Fuel Regulations	Government of Canada	Primarily normal

Source: Various government websites, Systematix Institutional Research

## 2G Ethanol: Getting ready to address the incremental demand

Second Generation (2G) feedstock includes agri residues like rice and wheat straw, cane trash, corn cobs and stover, cotton stalk, bagasse, empty fruit bunches (EFB), etc. In order to encourage setting up of 2G biofuel plants, the government has launched a scheme, namely, Pradhan Mantri Ji-VAN Yojana, which provides financial support to integrated bio-ethanol projects, using lignocellulosic biomass and other renewable feedstock. In this scheme, financial support would be provided to 12 integrated bio-ethanol projects using lignocellulosic biomass and other renewable feedstock at a total financial outlay of Rs 20bn for the period 2018-19 to 2023-24, along with support to ten demo projects for 2G technology.

PRJ offers 2G ethanol technology solutions to its clients wherein it utilises its enfinity cellulosic ethanol technology to convert multi-feedstock to fuel grade ethanol, bio chemicals, bio-CNG, liquid CO<sub>2</sub>, power export and bio fertilisers. The company has ~1000+ references in 100+ countries across all 5 continents around the globe. Each of these plants carry the company's signature technology innovation and integration, delivering lower water and energy footprint. The company also leverages on the CelluNiti technology, a unique IP-protected technology to make biofuels and chemical products from biomass, which the company has access to via its partnership with Sekab Group. The technology helps in converting cellulose to sustainable sugars and bioethanol. Sekab provides the know-how, patented processes and proprietary technology to produce bioethanol from lignocellulosic biomass. Through this PRJ and Sekab plan to offer sustainable solutions under technology to support climate action by decarbonising transportation.

We note that so far, only three 2G ethanol projects have been initiated by three different oil giants – HPCL's projects in Bhatinda, BPCL's project in Orissa and IOCL's project in Haryana – and all of them have been in association with PRJ. The plant in Haryana is a 100 KLPD project, based on PRJ's proprietary technology processing rice straw as a feedstock to produce ethanol. This 2G ethanol bio-refinery spans across 35 acres and processes 200,000 tonnes of rice straw (lignocellulosic feedstock) to produce 30mn litres of ethanol annually. This plant was commissioned in the H2FY22.

Exhibit 31: PRJ's CelluNiti Technology framework



Source: Company data, Systematix Institutional Research

## Compressed Biogas (CBG) Technology

### A step towards reducing the carbon footprint

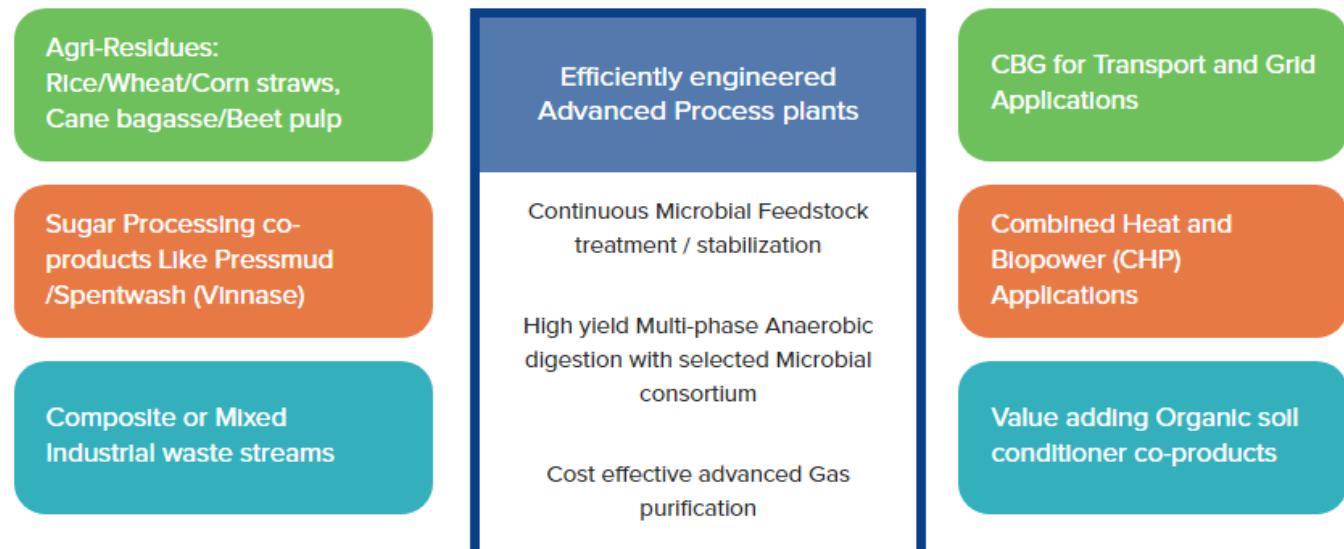
India currently imports 45% of natural gas, which is further processed to produce compressed natural gas (CNG) that is extensively used to meet India's energy demand. India is taking concerted efforts to improve the share of gas in its energy mix to 15% by 2030, from 6% currently. Current gas consumption is 174mmscd which is expected to triple by 2030 to 550mmscd. CBG is a high octane renewable gaseous fuel produced by processing bio-based feedstock such as press mud, agricultural residue, etc. This not only helps in energy self-sufficiency but also helps in reduction of carbon intensity, especially in the transportation and industrial sectors. CBG technology is a positive step in reducing the oil import bill as also the carbon footprint, as it utilises agricultural residue, cattle dung and municipal solid waste to produce transport fuels.

### Gol's ambitious plans offer ~Rs 50bn worth of opportunity for PRJ

The union budget of 2023-24 has given further emphasis on development of CBG projects under GOBARdhan (Galvanizing Organic Bio-Agro Resources Dhan) scheme. These will include 200 CBG plants, including 75 plants in urban areas, and 300 community or cluster-based plants at total investment of Rs 100bn. 5% CBG mandate has been introduced for all organizations marketing natural gas and biogas. PRJ's scope of work will include construction of the entire greenfield plant. However, we believe instead of doing the entire plant, PRJ would do only the processing part of that plant, which is almost 50% to 55% of the total project cost while the rest would be outsourced. This translates into Rs50bn opportunity for PRJ over the next 2-3 years.

**Praj RenGas technology:** PRJ has developed RenGas technology that utilises a proprietary microbial consortium that converts feedstock such as agri residues and press mud to CBG. The company has set up a CBG plant for Indian Potash Limited in Muzaffarnagar, which is built on its RenGas technology. This is nation's first-of-its-kind integrated bioenergy complex that produces ethanol, biogas, bio fertiliser and other by-products. It processes 200 TPD of press mud to produce compressed biogas. PRJ also commissioned a press mud based CBG plant in South India for Leafiniti. The company has also entered into a contract to build a rice straw (agri residue) to CBG plant for HPCL at Budaun, Uttar Pradesh (UP). This project has the potential to save up to 15,000 MT of CO<sub>2</sub> emissions per year.

### Exhibit 32: PRAJ multi-feed multi-products RenGas® plants



Source: Ministry of Petroleum, Government of India, Systematix Institutional Research

## Sustainable aviation fuel (SAF)

### Need for decarbonisation gaining awareness within the global aviation industry

Global aviation is currently responsible for about 3% of the total global GHG emissions. If the emission remains unchecked, it could be responsible for 22% of GHG emissions by 2050 (Source: World Economic Forum). To deal with this, international agencies have been advocating decarbonisation globally through alliances with leading stakeholders, and sustainable aviation fuel (SAF) - an aviation biofuel or bio-jet fuel or bio-aviation fuel (BAF) is a biofuel used to power aircrafts - is the answer to their questions.

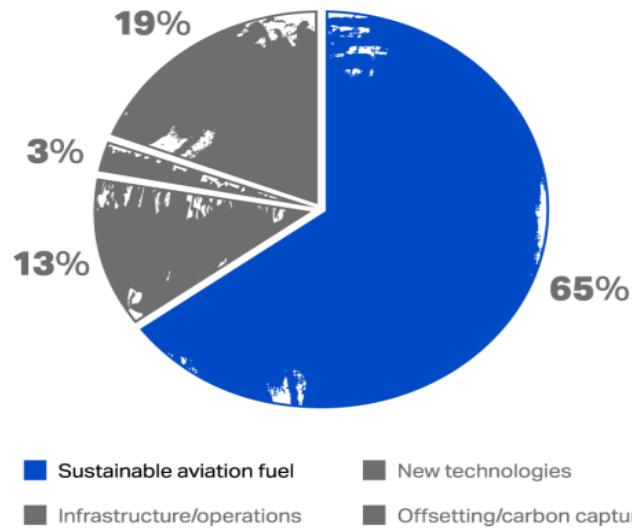
The International Air Transport Association (IATA) has estimated that SAF will contribute reduction of around 65% of emissions required, to achieve Net-Zero by 2050 globally. To give a thrust to SAF, some large economies have announced incentives for increasing usage of the same. USA has introduced a bill that would provide up to \$2 per gallon of tax credit to SAF producers, while EU has proposed a mandate to blend 2% of SAF by 2025, gradually increasing to 63% by 2050.

### SAF market potential

- Targeted SAF production in USA: 3bn Gallons (9mn tons per year) per year by 2030 – Low CI 1G Ethanol as primary feedstock
- SAF demand in EU: ~1.3mn tons per year – as per proposed mandate to blend 2% SAF by 2025 - feedstock limited to waste & residues.
- The market potential of SAF in India: 0.1mn tons per year (~120mn liters per year or ~300 TPD). Considering 1% SAF blending mandate by 2025, and projected demand in India by 2030 will be around 0.35mn tons year (~420mn liters per year or 1,125 TPD).
- Apart from India, there are likely opportunities for SAF projects in LatAM, Asia Pacific & Africa where sugary feedstock or Ethanol is available for conversion into SAF.

### Exhibit 33: SAF to be pivotal in meeting Net Zero Carbon Emission target set for 2050

Contribution to achieving Net Zero Carbon in 2050



Source: IATA, Systematix Institutional Research

**Praj's initiative for SAF technologies**

Under its BioMobility™ platform Praj offers technology solutions globally to produce renewable transportation fuel using bio-based feedstock, thus ensuring sustainable decarbonization through circular bioeconomy. Praj has partnered with globally leading technology companies to offer innovative technologies for production of SAF.

**Large airline companies have made the first move towards SAF**

Global giants like Singapore Airlines, Aer Lingus, British Airways, IAG and United Airlines have made the commitment to start flying SAF-powered flights while partnering with OEMs in developing aircrafts for the same. PRJ plans to leverage these opportunities and has joined the elite league of more than 60 industry leaders and major aviation companies around the globe like Microsoft, Air France, Boeing, etc. IATA data suggests that so far, over 450K+ flights have taken to the skies using SAF with ~USD 17bn of SAF in forward purchase agreements already in place, and 50+ airlines having experienced SAF. SAF can reduce emissions by up to 80% during its full lifecycle.

## Other segments

### HiPurity systems

Praj HiPurity Systems (HPS) has been a leading supplier of end-to-end turnkey solutions for the biopharma industry, sterile formulations, topical & oral formulations, personal care and the nutraceutical industry across the globe since last 3 decades.

With continued focus on NDDS (New Drug Delivery Systems), there is an unprecedented activity right from research to product development to commercialisation in the complex injectables space. As a leader, HPS offers process engineering and complex process skids. There is a huge interest and potential for creating fermentation-based manufacturing capacity in the country. HPS has the expertise to set up fermentation plants from pilot scale to ultra-high capacity. There is a drive to localise critical medicines and outreach of Indian pharmaceuticals to semi-regulated and regulated markets globally. HPS is well poised to cater to opportunities in this space by offering critical end-to-end high purity water systems. The company's international business is gaining traction, as clients from various countries are increasingly aiming to become self-sufficient in pharma and biologics products. HPS is partnering with the pharma companies in India and select international markets to deliver solutions for water & critical processes for life saving drugs and vaccines.

As of 9MFY23 the HPS segment had a Rs 2.7bn order book (8% of total order book as of 9MFY23). Segment revenue growth has been muted at 4% YoY to Rs 1.7bn during 9MFY23. Management says they are witnessing increasing traction for offerings in the High-Capacity fermenters, which accounts for 20% of the total orderbook currently. The company has also booked its first order in the Semiconductor sector. HPS has a healthy inquiry basket from international markets too. We expect its order book to increase at 31% CAGR over FY22-25E to Rs 3.1bn. The segment revenue to clock at 9% CAGR over FY22-25E to Rs 2.7bn.

### Brewery & Beverages business to pickup as demand rises to pre-covid levels

The Indian alcoholic beer industry is expected to grow at 10% CAGR during 2022-25 from USD 11.5bn in CY22, supported by 6-7% volume growth at 5,852ML in CY25 (Source: Statista). However, the non-alcoholic beer industry is expected to expand to USD 3.85bn from USD 2.41bn in CY22, with global revenue in the beer segment amounting to USD 643bn in 2023. The market is expected to grow at 8.51% CAGR to USD 710bn over 2023-2025. Given its >70% market share in India and experience of installing projects in Africa and Southeast Asia, PRJ offers a complete range of solutions in conceptualization, technology, design, plant engineering, project installation, and commissioning. A long-standing association with technology partners Bucher-Filtrox and Meura further strengthens its portfolio. Post slowdown due to COVID, the company is seeing orders pick up from its key markets, along with brewery players eager to incur greenfield capex, as hospitality and travel pick up. The company is involved in setting up India's largest apple juice concentrate in Himachal Pradesh, while it remains optimistic on its alcoholic beer business to generate the required returns.

### **Critical process equipment & skids (CPES)**

CPES provides world-class solutions to global customers across the hydrocarbon industry, petrochemicals, industrial and chemical plants. From extended basic engineering to commissioning assistance, this vertical offers specialised services in conceptualising, engineering, and manufacturing modular process packages along with critical equipment such as reactors, high pressure vessels, heat exchangers, columns, and customer-specific proprietary equipment.

PRJ has successfully implemented the strategy to work with select group of progressive global customers and has started receiving repeat orders from select group of customers after successfully supplying the initial set of equipment. In FY22, the company received multiple contracts from a US-headquartered Industrial Gases company for the supply of critical equipment and modules used for one of its largest hydrogen plants. The company also received large orders for multiple equipment from one of its key customers to supply LNG projects in the US. We note, modularisation is fast gaining acceptance with global customers, and is clearly emerging as a growth engine for the business. PRJ's growth strategy is to become a go-to company for modularisation in new energy sectors. To leverage their multi-disciplinary engineering strengths and manufacturing expertise, it has set up a Centre of Excellence for modularisation. The centre will work collaboratively with key customers to create modular solutions for their new technologies.

PRJ's Kandla facility currently serves the market of oil & gas and fertilizers. To address the growing business opportunity company is investing in a new manufacturing facility to be housed in a new subsidiary.

### **Waste-water treatment solutions**

PRJ offers complete end-to-end water and wastewater treatment solutions to its customers. It offers a comprehensive range of solutions for industrial effluent treatments, recycling and zero liquid discharge (ZLD) systems to customers across several sectors namely metals, power, specialty chemicals, fertilisers, refinery & petrochemicals, F&B, etc.

PRJ is executing the IOCL project at Dumad, Gujarat, where it will treat water from entry in pipes till exit and help save 4.7mn litres of water per day. The company continues to find strong market traction in the metals sector, evident from an order win from a metal major and foresees repeat order wins from one of the leading Indian conglomerates - a testament of its technology and delivery capabilities.

The engineering business (EB) which comprises of CPES and water treatment segments has clocked 10% CAGR over FY17-22. EB contributed 31% of FY17 total revenues which fell to 20% in FY22 mainly due to faster growth in the bioenergy segment driven by large scale projects for ethanol. Over FY22-25E we expect EB to register 26% revenue CAGR driven by increased order inflow in CPES and water treatment segments.

## Strong inhouse R&D makes PRJ a preferred Bio-tech partner

### PRJ's strong inhouse R&D working on multiple fronts

The company has always focused on expanding its business horizons in bioeconomy by leveraging its technology-led innovative solutions. Praj Matrix, its R&D centre, has been relentlessly continuing with its two technology initiatives - Bio-Mobility and Bio-Prism. Through Praj Matrix, the company is committed to further improving 2G technology and widening its expanse by adding different feedstock to produce ethanol.

Under its Bio-Mobility platform, the company is actively pursuing developments in next gen and future fuels, including SAF and bio-hydrogen, and as part of Bio-Prism platform, the company is focusing on bioplastics, an apt sustainable solution to provide alternative to plastics. It is also developing technologies for Bio-Bitumen. Bio-Bitumen samples produced at its 2G demo plant have been validated by their partners for being used to construct roads.

Technological advancements made by PRJ has made it the preferred partner for bioenergy technology. Over the years the company has forged strong partnerships with global as well as domestic players. Some of the important partnerships PRJ has entered in the last few years are:

#### a. PRAJ GEVO Partnership

Praj has signed a Construction License Agreement (CLA) with Gevo, Inc, USA dated 4th April 2019, to commercialize technology to produce Isobutanol using sugary-based feedstocks, such as juice, syrup and molasses. Pursuant to the CLA, Praj will provide Engineering Procurement and Construction (EPC) services to 3<sup>rd</sup> parties using a process design package developed by Praj. This package uses Gevo's proprietary Isobutanol biocatalyst on sugary-based feedstock. Isobutanol derived from said proprietary process is high energy renewable intermediate product that finds application in Aviation and Racing cars.

In addition to the CLA, Praj and Gevo have also entered into a new Joint Development Agreement (JDA) dated 4th April 2019. This agreement is aimed at continuing joint development efforts to produce Isobutanol using agricultural residue such as bagasse, rice straw, wheat straw, corn stover, cotton stalk and empty fruit bunches. These 2<sup>nd</sup> generation agricultural residues are the lowest cost feedstocks in some markets and have the additional benefit of having a very low carbon footprint.

#### b. PRAJ IOCL MoU

In Nov'21, Praj and Indian Oil Corporation Limited (IOCL) inked an MoU to explore opportunities to fast-track India's transition to cleaner and greener sources of energy by exploring avenues such as the production of Alcohol to Jet (ATJ) fuels, 1G & 2G Ethanol, Compressed Bio-Gas (CBG) and related opportunities in the Biofuels industry. This MOU will boost ATJ fuel production capacity and its use in India which will in turn help curb emissions emanating from the airplanes as per IATA's mandate.

#### c. PRAJ Axens MoU

Axens and Praj have signed a MOU to work jointly on projects in India for production of SAF from low carbon alcohols through ATJ pathway.

Praj brings to the table proven expertise in modularized solutions, integration services for complete project and technology for production of low carbon isobutanol and ethanol from conventional bio-sourced feedstock. Axens will provide its Jetanol (Alcohol-To-Jet) technologies, catalyst solution, equipment and services (training, technical assistance) for conversion of alcohols to SAF.

## Key risks

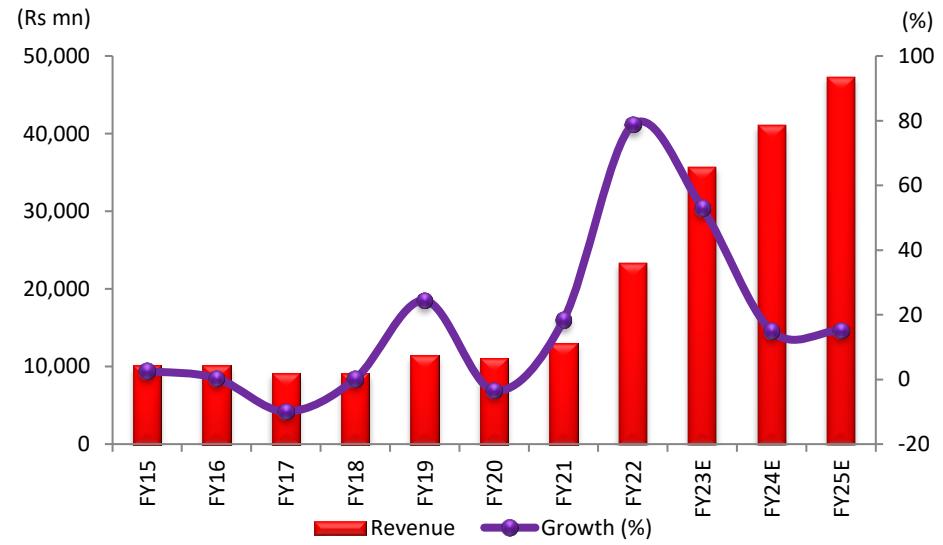
- **Weak ethanol realisation:** Ethanol pricing depends on ethanol supplied to OMCs under EBP at a mandated price. Any change in government procurement policy or pricing of ethanol could have a bearing on the financial conditions of ethanol-producing companies and therefore, PRJ's order book/inflows.
- **Change in government's ethanol-blending policy:** GoI regulates the EBP program and ethanol demand depends on the EBP program requirements. While the government's policy requires that the ethanol blend in petrol be increased to 20% by 2025, any change or delays in implementing this could adversely affect the demand for ethanol under the EBP program.
- **Inability to pass through raw material price volatility:** Weakness in the global economy owing to high inflation, global supply chain and crude oil pricing due to the prevailing geopolitical scenarios could create cost pressures, and thus pose challenges on the margins front.

## Financial Outlook

### We forecast 27% revenue CAGR over FY22-FY25E

PRJ posted revenue/EBITDA CAGR of 26%-39% over FY18-FY22. We forecast 27% revenue CAGR over FY22-25E, driven by strong growth in its order book. We expect bioenergy revenues to touch Rs 35bn in FY25E, from Rs 16.6bn in FY22, implying 29% CAGR over the next three years. Growth would mainly be driven by new grain-based distilleries and 2G ethanol plants. We believe international revenue CAGR of 13% over FY22-FY25E would be led by strong new product launches and an extensive distribution network.

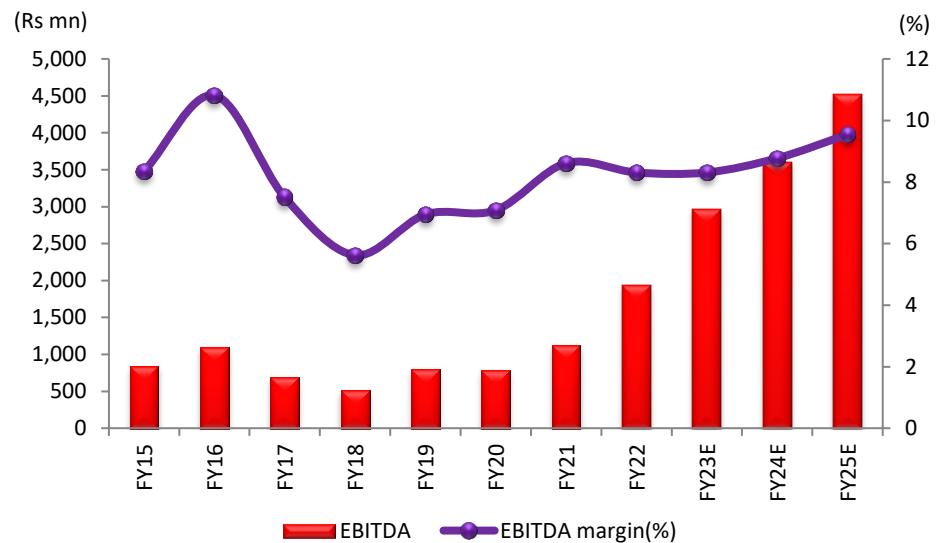
### Exhibit 34: Revenue and growth



Source: Company, Systematix Institutional Research

### Better product mix and easing RM costs to drive margins over FY23-25E

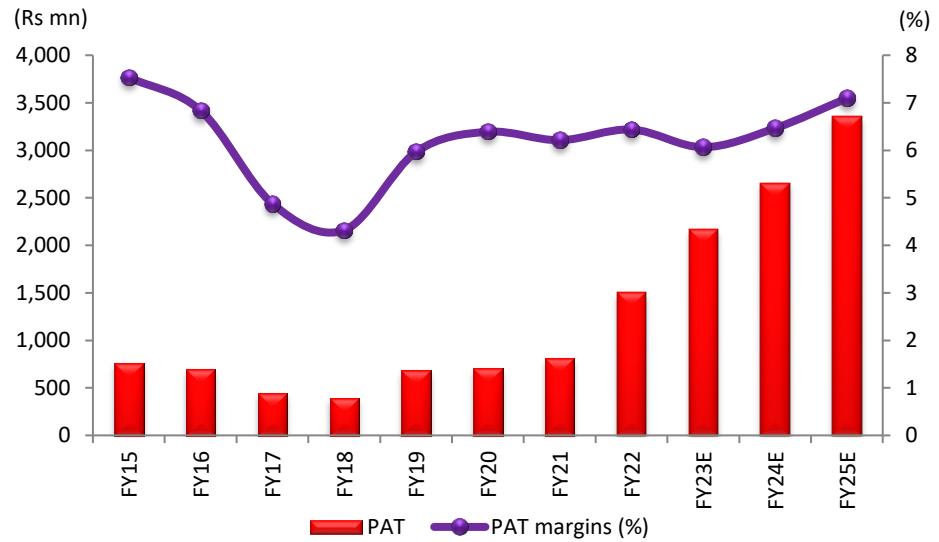
EBITDA margins in H1FY23 came under pressure due to raw material cost inflation as prices of steel and other commodities increased sharply. However, PRJ reported a sequential improvement in EBITDA margins in Q3FY23 on softening of RM costs and closure of older fixed price contracts. We expect the margins to improve 120bps over FY23-25E as the company enters into new contracts with price pass-through mechanism, focus on higher margins vs. topline and operating leverage.

**Exhibit 35: EBITDA and EBITDA margin**

Source: Company, Systematix Institutional Research

**Consistent earnings growth over FY18-FY22**

PRJ delivered 40% CAGR in earnings over FY18-FY22, on the back of huge demand from sugar mills to set up ethanol plants to meet government's E20 blending target and on an improving margin profile. We expect EPS to improve from Rs 8.2 in FY22 to Rs 18.3 in FY25E, which translates into 31% CAGR over FY22-FY25E.

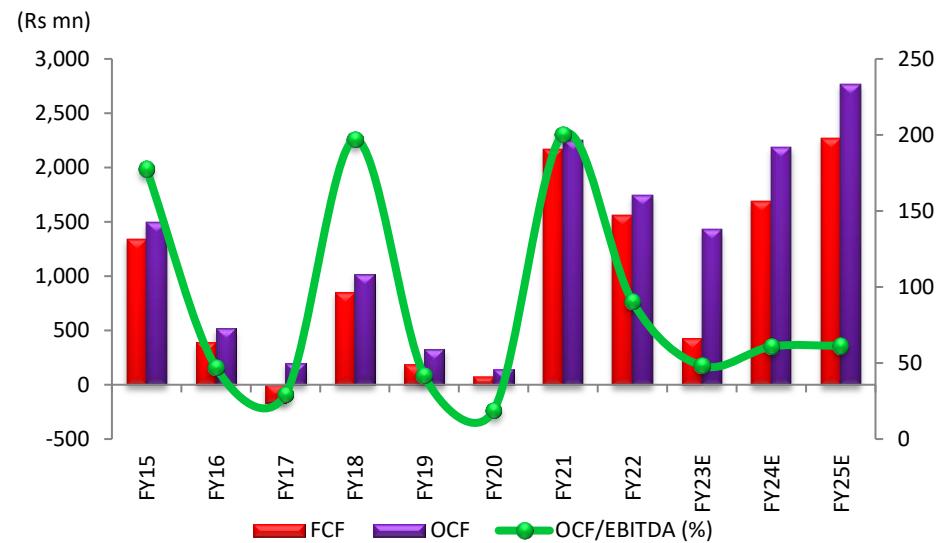
**Exhibit 36: PAT and PAT margin**

Source: Company, Systematix Institutional Research

**Rising profitability to further strengthen balance sheet**

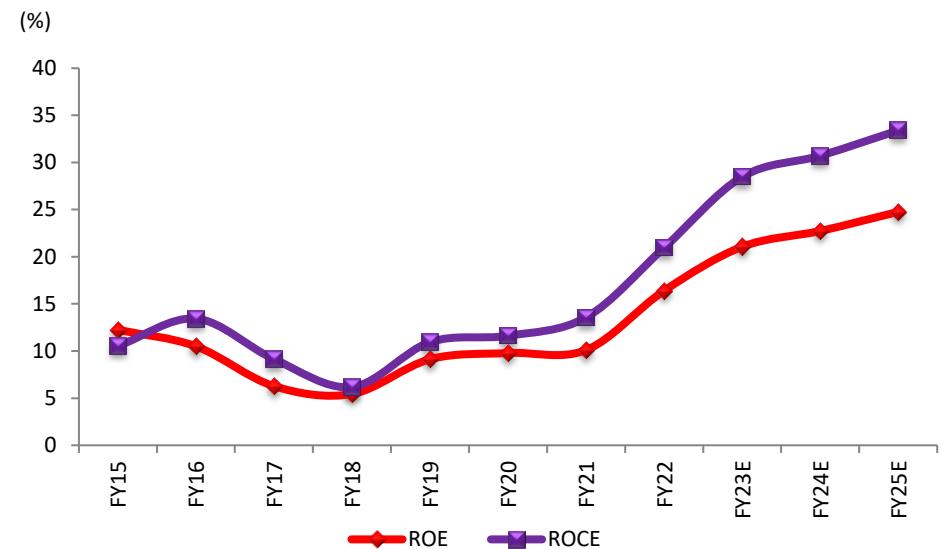
We expect rising profitability to result in healthy free cash flows (FCF) and a strengthened balance sheet. PRJ has a healthy balance sheet with net cash of Rs 5.7bn as at FY22-end. We expect the company to incur Rs 2.0bn in capex over FY23-25E. With minimal capex outflow over FY22-25E, we expect the company to report FCF generation of Rs 4.4bn over FY22-25E. PRJ would continue to maintain a net-cash balance sheet, in our view.

## Exhibit 37: FCF and OCF



Source: Company, Systematix Institutional Research

## Exhibit 38: Return ratios to improve as profitability improves



Source: Company, Systematix Institutional Research

## Outlook and valuation

### Low on valuations high on certainty – Initiate with a BUY

PRJ's medium-term earnings visibility looks intact, boosted by a) robust 1G ethanol order book, b) rising opportunity in 2G ethanol, c) strengthening relationship in export markets, and d) scale up in RCM and HPS. We expect cash reserve to increase and strengthen the balance sheet over the medium term, with expected significant FCF. PRJ ranks high in our matrix of companies that offer high certainty on earnings but are low on valuations. The stock has corrected ~24% in last four months, and currently trades at 18.8x FY25E EPS – that is, below its long-term average of 25x. We initiate coverage on the stock with a **BUY** rating to arrive at our target price of Rs 458, valuing the stock at 25x FY25E P/E.

PRJ has been trading at 10x- 35x one-year forward P/E multiple in the last five years; the last three-year average is ~25x. The company has no direct listed comparable on relative valuations terms, given its diversified portfolio mix. However, its nearest peer is ISGEC. Currently, PRJ trades at ~18.8x FY25 PE v/s ISGEC at ~16x (Bloomberg consensus). Further, PRJ trades at a discount to private-sector industrial average.

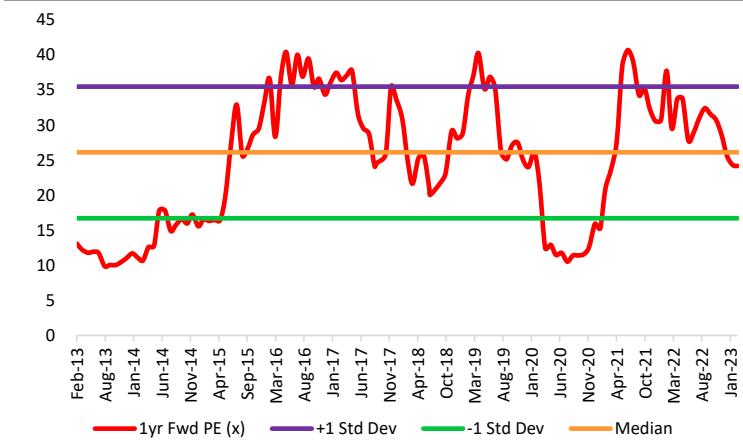
### Exhibit 39: Valuation overview

	FY25E
EPS (Rs)	18.3
Current market cap (Rs mn)	63,124
No of shares (mn)	184
Target multiple (x)	25x
<b>TP (Rs)</b>	<b>458</b>
CMP (Rs)	344
Upside (%)	33

Source: Systematix Institutional Research; Note: pricing as on 3 March 2023

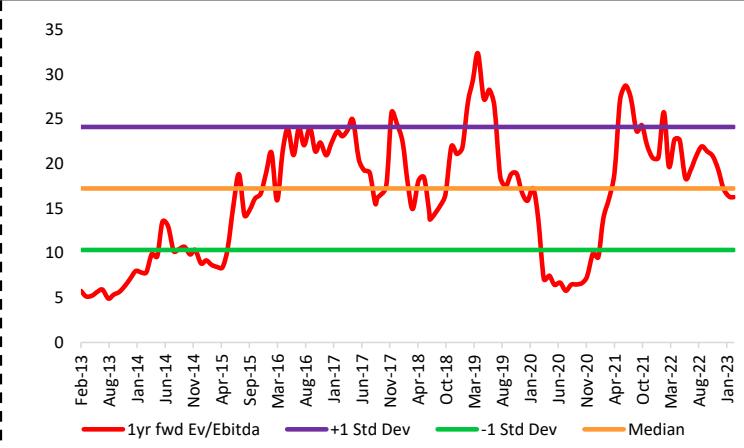
## Valuation charts

### Exhibit 40: Trading at a one-year forward P/E of 24.2x



Source: Company, Systematix Institutional Research

### Exhibit 41: Trading at a one-year forward EV/EBITDA of 16.3x



Source: Company, Systematix Institutional Research

## Company background and management details

Praj Industries (PRJ) is a process and project engineering company established in 1983 by Mr. Pramod Chaudhari, and is headquartered in Pune, Maharashtra. Its more than 750 customers span across 75+ countries and 5 continents. The company also has offices in South Africa, North America, Latin America & Caribbean, Thailand, and Philippines with manufacturing facilities in Samajwadi, Pune; Kandla Port, Gujarat and Wada, Thane district.

### The company's business is divided into 4 key segments:

- Bioenergy:** This segment is further subdivided into (1) biofuels, which includes 1G ethanol, (2) advanced biofuels, which includes 2G ethanol and CBG, and (3) future biofuels, which includes SAF, bio-marine fuel, bio methanol and bio hydrogen. Biofuels are produced using various types of bio-based feedstock such as C molasses, B molasses, sugar syrup, damaged/ surplus grains and agri residues and biomass. The company has developed proprietary technologies like BioSyrup for 1G ethanol plant that ensures year-round ethanol production using syrup as feedstock, and 2Genfinity for the 2G ethanol plant. PRJ would be using its 2Genfinity technology to develop upcoming biorefineries of IOCL, BPCL, and HPCL. The company also has international customers in the US, Europe, Canada, Mexico, etc. In the CBG segment, it has set up manufacturing plants for clients to produce CBG /CNG by deploying its proprietary technology, RenGas. RenGas technology uses a proprietary microbial consortium that converts feedstock such as agri residues and press mud to CBG.
- HiPurity systems:** HiPurity Systems (HPS), a fully owned subsidiary of PRJ offers ultra-high purity water systems, modular process systems (MPS) and fermentation solutions to customers engaged in biopharmaceuticals, sterile formulations, complex injectables, personal care and nutraceutical offerings. The company partners with Indian pharma companies and is associated with clients in few international markets to create value through injectables, fermentation and bio-pharma segments.
- Engineering:** The segment is subdivided into 4 parts, namely (1) brewery plants where it sets up plants, equipment, and technology solutions to manufacture alcohol using its proprietary WoSmart technology. The technology helps in reducing steam energy consumption by 50%, making it more efficient (2) critical process equipment skids (CEPS), where the company manufactures pressure vessels, reactors, heat exchangers and other proprietary equipment along with skid engineering equipment needed for oil and gas processing, petrochemicals, industrial gas plants, chemical plants, etc., and (4) waste water treatment, where the company sets up various industrial effluent treatment, recycling and zero liquid discharge (ZLD) systems for customers across several sectors namely metals, power, specialty chemicals, fertilisers, refinery & petrochemicals, food & beverages, etc.
- R&D and Operations and Maintenance (O&M) services:** Within the R&D segment, PRJ undertakes R&D activities to develop different molecules with a view to expand presence in bioeconomy, namely renewable chemicals, and materials with its proprietary based Bio-Prism. The company has been working on expanding its R&D business portfolio with tie-ups too. On Systems services, the company leverages RemoteBridge, its proprietary Remote Plant Monitoring System to enable clients to improve the performance of their plants through data collection, analytics, diagnostics, and remedial measures.

The company uses its Bio-Mobility technology platform to produce biofuels and Bio-Prism technology portfolio to produce renewable chemicals and materials.

In FY22 the company reported revenue of Rs 23bn, 71% of which was from the bio-energy segment, 27% from engineering (CEPS and water waste treatment segments included) and 9% from the HiPurity segment. It generated 79% of the revenue in FY22 from the domestic market, with the rest from exports. PRJ held an order backlog of Rs 34bn as of Dec 31, 2022 (83% domestic and 17% export orders), 73% of which was from bioenergy, 19% from engineering and 8% from HiPurity segments.

### Manufacturing capability

PRJ's multi-disciplinary engineering team, world class manufacturing facilities at different locations with excellent connectivity to ports and highways, substantiate their manufacturing capabilities. These are located at Sanaswadi, Urawade, Wada in Maharashtra and in Kandla (Gujarat). The company has also created a dedicated sub-vendor base to cater to increased ethanol demand from its domestic markets; its Sanswadi and Kandla facilities are approved by global multinational and EPC companies for the supply of equipment and skids. The facilities are accredited with ASME U & U2, R Stamps and NB registrations. The ASME BPE compliant facility located at Wada serves clients in the pharmaceutical industry. The company continues to strengthen its dedicated vendor base across geographies to improve efficiency and towards effective project delivery. The company also plans to array into the sustainable aviation fuel segment going forward.

### Exhibit 42: Key Management Personnel

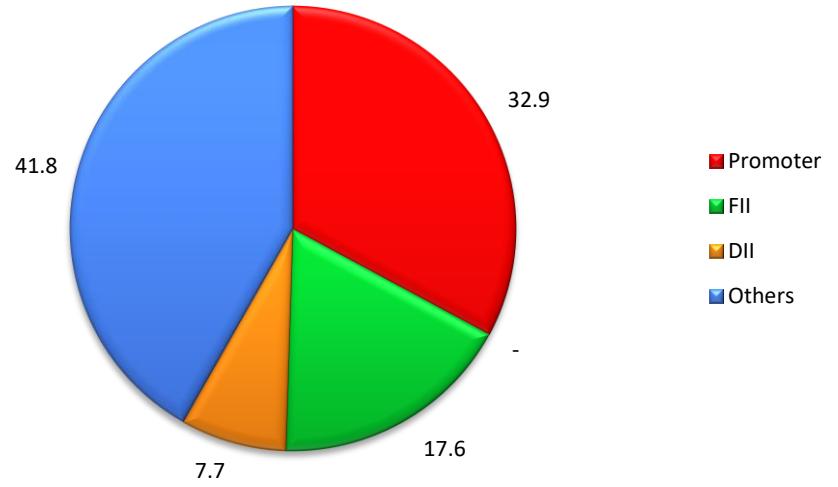
Name	Designation	Experience
Mr. Shishir Joshipura	CEO and Managing Director	<p>A mechanical engineer from the prestigious Birla Institute of Technology &amp; Science (BITS) Pilani, and an Advanced Management Graduate degree from Harvard Business School, Mr. Joshipura joined Praj in 2018 as the CEO and Managing Director of the organisation. Prior to this, he served as MD at SKF India during 2009 to 2018. Under his leadership, SKF was a leading manufacturer of bearings, seals, lubrication systems, mechatronics and services. Mr. Joshipura has over 35 years of experience in varied fields of engineering, and has served in key positions at prestigious organisations throughout his long career.</p> <p>He also co-chairs the CII Innovation Council for Western region and is a member of the CII National Committee on capital goods, smart manufacturing, trades and fairs and the Founding Director for Alliance for Energy Efficient Economy (AEEE) – an industry thinktank and policy advocacy organisation for energy efficiency in India.</p>
Mr. Pramod Chaudhari	Executive Chairman	<p>Mr. Chaudhari is founder and currently the executive chairman of Praj; he is a distinguished alumnus of IIT Bombay (1971) and Harvard Business School (AMP 1995).</p> <p>He has been instrumental in enabling exponential bottom line growth, and building an inherently scalable, replicable, and sustainable business model at Praj Industries. Under his leadership, Praj has partaken in the emergence of advanced technologies in bioenergy and allied spaces and is currently India's biggest biofuel technology company with 1000+ footprints in over 100+ countries, across 5 continents.</p> <p>He is a recipient of many prestigious awards, one among which includes the 'George Washington Carver Award 2020' by BIO-Impact, Washington DC, USA; he is the first Indian to have received such global honour. He too has held key positions in various organisations.</p>
Mr. Sachin Raole	CFO and Director	<p>Mr. Raole is a Cost Accountant and a Chartered Accountant with over 22 years of experience in varied fields of finance and accounts. He has worked in areas such as divestments, mergers &amp; acquisitions, financial restructuring, treasury, accounts, and taxation. He has a rich experience within the wide spectrum of finance, and across industries ranging from manufacturing, projects, financial services, and pharmaceuticals. His experience extends to heading the human resources, materials, IT, legal &amp; secretarial departments.</p>

Source: Company, Systematix Institutional Research

## Shareholding pattern

The company has not pledged any of its total promoter shareholding of 32.9%. Non-promoter group shareholders largely include domestic institutional investors (7.7%), foreign portfolio investors (17.6%) and others (41.8%).

**Exhibit 43: Shareholding pattern (%) as of December 31, 2022**



*Source: Company, Systematix Institutional Research*

## FINANCIALS

### Profit & Loss Statement

YE: Mar (Rs mn)	FY21	FY22	FY23E	FY24E	FY25E
<b>Net revenues</b>	<b>13,047</b>	<b>23,333</b>	<b>35,706</b>	<b>41,072</b>	<b>47,333</b>
Revenue growth (%)	18	79	53	15	15
- Op. expenses	11,923	21,395	32,740	37,469	42,816
<b>EBITDA</b>	<b>1,124</b>	<b>1,938</b>	<b>2,967</b>	<b>3,603</b>	<b>4,517</b>
EBITDA margins (%)	9	8	8	9	10
- Interest expenses	29	25	33	26	15
- Depreciation	221	226	291	315	338
+ Other income	190	241	285	327	376
- Tax	313	518	761	933	1,180
Effective tax rate (%)	29	27	26	26	26
Reported PAT	751	1,410	2,166	2,656	3,360
+/- Extraordinary items	(8)	(28)	-	-	-
+/- Minority interest	-	(0)	-	-	-
<b>Adjusted PAT</b>	<b>811</b>	<b>1,502</b>	<b>2,166</b>	<b>2,656</b>	<b>3,360</b>
EPS (Rs/share)	4.4	8.2	11.8	14.5	18.3

Source: Company, Systematix Institutional Research

### Cash Flow

YE: Mar (Rs mn)	FY21	FY22	FY23E	FY24E	FY25E
PBT	1,131	2,049	2,927	3,589	4,540
- Cash Tax	(149)	(450)	(761)	(933)	(1,180)
+ Non cash items	109	56	324	341	353
Cash profit	1,092	1,654	2,490	2,997	3,713
- Incr/(Decr) in WC	1,159	93	(1,061)	(809)	(944)
<b>Operating cash flow</b>	<b>2,251</b>	<b>1,747</b>	<b>1,429</b>	<b>2,188</b>	<b>2,769</b>
- Capex	(87)	(185)	(1,000)	(500)	(500)
<b>Free cash flow</b>	<b>2,338</b>	<b>1,932</b>	<b>2,429</b>	<b>2,688</b>	<b>3,269</b>
- Dividend	4	397	1,040	1,256	1,473
+ Equity raised	3	26	-	-	-
+ Debt raised	-	-	(50)	(20)	(20)
- Investments	1,626	1,170	-	-	-
- Misc. items	(16)	(15)	(218)	(247)	(247)
<b>Net cash flow</b>	<b>726</b>	<b>407</b>	<b>1,557</b>	<b>1,659</b>	<b>2,023</b>
+ Opening cash	458	1,039	1,075	381	767
<b>Closing cash</b>	<b>1,185</b>	<b>1,445</b>	<b>2,632</b>	<b>2,040</b>	<b>2,790</b>

Source: Company, Systematix Institutional Research

### Balance Sheet

YE: Mar (Rs mn)	FY21	FY22	FY23E	FY24E	FY25E
Share capital	366	367	367	367	367
Warrants	-	-	-	-	-
Reserves & Surplus	7,652	8,790	9,916	11,316	13,202
Networth	8,018	9,157	10,283	11,683	13,569
Minority interest	7	7	7	7	7
Total Debt	113	147	97	77	57
Def. tax liab. (net)	(89)	5	5	5	5
<b>Capital employed</b>	<b>8,050</b>	<b>9,316</b>	<b>10,392</b>	<b>11,771</b>	<b>13,638</b>
Net Fixed assets	2,842	2,882	3,590	3,776	3,937
Investments	3,523	4,800	4,800	4,800	4,800
Net Working capital	1,685	1,634	2,001	3,195	4,900
Cash and bank balance	1,011	1,075	381	767	1,528
<b>Capital deployed</b>	<b>8,050</b>	<b>9,316</b>	<b>10,392</b>	<b>11,771</b>	<b>13,638</b>
Net debt	(898)	(927)	(284)	(689)	(1,471)
WC (days)	69	53	55	55	55
DE(x)	0	0	0	0	0

Source: Company, Systematix Institutional Research

### Ratios

YE: Mar	FY21	FY22	FY23E	FY24E	FY25E
P/E (x)	77.8	42.0	29.1	23.8	18.8
P/BV (x)	7.9	6.9	6.1	5.4	4.7
EV/EBITDA (x)	52.2	29.6	19.6	16.0	12.6
RoE (%)	10.1	16.4	21.1	22.7	24.8
RoCE (%)	13.6	21.0	28.5	30.7	33.4
Fixed Asset turnover (x)	5.9	10.5	14.6	15.6	16.9
Dividend (%)	108	150	240	290	340
Dividend yield (%)	0.6	0.9	1.4	1.7	2.0
Dividend payout (%)	49	37	41	40	37
Debtors days	127	80	75	75	75
Creditor days	96	66	60	60	60
Inventory days	36	54	40	40	40
Revenue growth (%)	18.3	78.8	53.0	15.0	15.2
EBITDA growth (%)	44	72	53	21	25
PAT growth (%)	15	85	44	23	26

Source: Company, Systematix Institutional Research

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