Initiating Coverage

25th July, 2024

DALAL & BROACHA
STOCK BROKING PVT. LTD.

Ganesha Ecosphere

518, Maker Chambers V,
221 Nariman Point, Mumbai 400 021.
91-22- 2282 2992, 2287 6173
research@dalalbroachaindia.com,
equity.research@dalal-broacha.com

Bhavya Gandhi
+91 22 67141438
bhavya.gandhi@dalal-broacha.com

Ganesha Ecosphere Ltd (GEL)

Initiating Coverage | Textiles & Waste Management

Capitalizing on EPR in plastics

DALAL & BROACHA STOCK BROKING PVT. LTD.

Equity Research Desk

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Ganesha Ecosphere Ltd (GEL) stands as a pioneering force in plastic waste – PET (One of the 7 types of plastic) recycling within India, specializing in the production of recycled fiber & yarn. Positioned at the forefront of India's circular economy transformation, GEL is undergoing a strategic shift. Instead of solely converting PET waste into textiles—a cyclical industry—it is transitioning towards repurposing PET waste into reusable plastic bottles and packaging for the FMCG industry-relatively stable industry (rPET granules). As per the new EPR (extended producers responsibility) norms, GOI has mandated the use of recycled plastic in new packaging products manufactured or used by producers starting FY26,thus promising a more stable trajectory, aligning with the evolving dynamics of sustainability and market demand. The mix of value-added products is expected to constitute 50% of total revenue by FY27, resulting in an EBITDA margin expansion from approximately 11% to 15% (+400 bps).

Being the largest PET bottle recycling company in India, contributing to recycling over ~16% of India's PET bottle waste p.a. (recycles >6bn PET bottles annually) stands at the forefront of revolution which is going to take place in plastic waste management industry.

India, ranking third globally (after China & USA) in plastic waste generation, has implemented mandatory regulations for recycling and reusing plastic packaging, in a bid to combat the growing plastic waste menace. Recycling is evolving from "Good to have" to "Must have"; the sector is moving from the "sidestream to mainstream". Growing awareness of plastic's harmful environmental impact, persisting for around 450 years before decomposing, has sparked global concern and significantly increased the integration of recycled materials into PET applications.

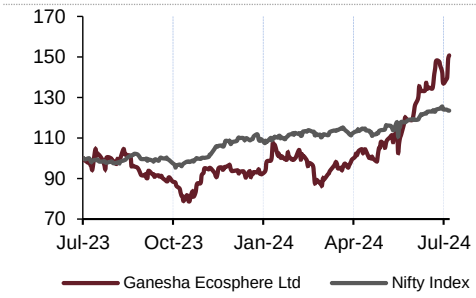
We expect robust revenue/EBITDA/PAT/EPS CAGR of 19%/30%/30%/23% over FY23-27e (with FY23 being a normalized year for CAGR purpose) & value the company at 25x FY27e EPS of ~Rs.73 arriving at target price of Rs.1,815 (~1x PEG implying a PE multiple of 25x. This is justified by evolving regulatory dynamics, which are expected to enhance earnings longevity, strengthen the raw material procurement moat, and leverage the high-entry barrier nature of the business. Additionally, the shift from the cyclical textile industry to an FMCG clientele, along with increased customer loyalty, all contribute to potential high earnings visibility.)

Rating	TP (Rs)	Up/Dn (%)
BUY	**1,815**	**15**

Market Data		
Current price	**Rs**	**1,585**
Market Cap (Rs.Bn)	(Rs Bn)	40
Market Cap (US$ Mn)	(US$ Mn)	480
Face Value	Rs	10
52 Weeks High/Low	Rs	1,595 /811
Average Daily Volume	('000)	80
BSE Code		514167
Bloomberg		GNPL.IN

Source: Bloomberg

One Year Performance



Source: Bloomberg

% Shareholding	Jun-24	Mar-24
Promoters	36.44	36.44
Public	63.40	63.40
Total	**100**	**100**

Source: Bloomberg

Financial Summary

Y/E Mar (Rs mn)	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e
Net sales	7,511	10,214	11,796	11,229	17,193	18,746	23,620
EBIDTA	845	1,139	1,277	1,379	2,545	2,811	3,686
Margins	11.2	11.2	10.8	12.3	14.8	15.0	15.6
PAT (adj)	435	619	699	406	1,395	1,479	1,983
Growth (%)	-31.7	42.4	12.9	-41.9	243.8	6.1	34.0
EPS	19.91	28.35	32.01	16.01	53.17	54.15	72.59
P/E (x)	80	56	50	99	30	29	22
P/B (x)	7	6	5	4	3	3	3
EV/EBITDA (x)	41	33	30	30	17	17	14
RoE (%)	9	11	12	5	12	11	13
ROCE (%)	11	12	11	8	14	12	14
RoIC (%)	9	8	8	6	11	10	11

Source: Dalal and Broacha

Bhavya Gandhi
+91 22 67141438
bhavya.gandhi@dalal-broacha.com

Investment Rationale:

❖ Conducive regulatory framework to benefit recyclers

(Extended Producers Responsibility (EPR) in plastic packaging waste: Single biggest trigger)

As per the Extended Producer Responsibility (EPR) provisions under the Plastic Waste Management Rules notified by the Ministry of Environment, Forest and Climate Change, GOI, it is the responsibility of **producers, importers, brand owners, (PIBOs) and plastic waste processors (PWPs) to ensure the processing of their *PLASTIC PACKAGING WASTE*.**

Starting April 1, 2025, entities in plastic packaging must include **recycled plastic content** in their products, with at least 30% of the total plastic coming from recycled materials such as **rPET**. This requirement will rise to 60% by FY29, significantly benefiting companies like GEL. As the largest player in India's plastic waste recycling industry, with over three decades of experience, **GEL holds a capacity that is double that of its nearest competitor.**

❖ GEL aims to capture >10% market share of rPET market

(rPET chips are recycled polyethylene terephthalate pellets from pre & post-consumer plastic waste used as raw materials for producing new plastic products.)

Seizing the demand for rPET in bottle & food grade applications, GEL aims to capture a significant share, between 10-12%/30%, of the anticipated rPET/rPET chips + flakes (recycled polyethylene terephthalate) market by 2030. The expected total market size for rPET by 2030 is projected to be ~2.8 Mn tonnes which is currently ~0.9 Mn tonness (The pricing of rPET is 10-15% higher than that of virgin PET). This means GEL's target market share translates to capturing 2,00,000 to 3,00,000 tonnes of rPET annually by 2030 from current levels of 42,000 tonnes (6-7x current size). GEL has already invested Rs. 4.5 bn for a 42,000 tonnes per annum rPET capacity at Warangal, from a total capital expenditure outlay of Rs. 6.5 bn.

❖ GEL at inflection point : Low entry barrier business to value added high entry barrier business

With three decades of experience in plastic waste recycling, converting PET bottles into textile yarns and fibers, GEL is poised to capitalize on the advent of EPR. Now, GEL can convert pre- and post-consumer PET waste into food-grade rPET chips for reuse in plastic packaging. Unlike its traditional business with low entry barriers, this new venture has high entry barriers due to the complexity of transforming post-consumer PET waste into reusable rPET granules, which must be contamination-free for human consumption. The approval process for these products is lengthy, making it challenging for new entrants to gain market share quickly. The majority of the PET market is used in the bottling industry. GEL has already secured trial orders from Moon Beverages, a bottler for Coca-Cola, in Q2FY24, indicating its commitment to PET recycling. GEL has begun regularly supplying Coke and Pepsi bottlers.Furthermore, GEL is currently in discussions with numerous other bottling companies and brands to establish a robust customer pipeline.

❖ Future ready: GEL capacity ready to capture the demand supply mismatch that can be created in rPET market

The demand for recycled PET in the next five-seven years is expected to be 2-2.5x of current supply capacity growing at a CAGR of ~25%, validating the Company's recent expansion at Warangal. GEL is ready with capital expenditure of ~Rs. 6.5 bn at its Warangal facility, with the majority, ~Rs.4.5 bn, allocated towards rPET. Capitalizing on the EPR, the Warangal plant is expected to generate revenues in the range of Rs. 6-7 bn with EBITDA margins of around 20%.(rPET + filament yarn + RPSF).

❖ Margin-accretive products at the Warangal plant are expected to drive overall EBITDA from historical levels of ~11% to 15% (400+ bps improvement)

To improve company-level EBITDA from historical levels of ~11% to 15% (a 400+ bps improvement), the Warangal plant will focus on margin accretive products by capitalizing on **rPET chips** (rPET @ 22% EBITDA vs traditional products at ~11% taking blended EBITDA to ~15%).

In the long term, the strategy includes diversifying into additional plastic products such as HDPE, LDPE, and PVC as regulatory guidelines for these products become clearer. The proportion of older products is expected to decrease from 100% in FY23 to 50% by FY27, being replaced by newer value-added rPET chips and filament yarns.

❖ GEL has been in the recycling business for over three decades maintaining its leadership position

Recycling was once seen as a potential long-term business opportunity for companies. Now, it's become essential for both medium and long-term viability. This shift means recycling is transitioning from being a desirable option to a necessary one, moving from the sidelines to the forefront of the mainstream sector.

❖ GEL: Succession plan in place

GEL was founded by Shyam Sunder Sharma, a first-generation entrepreneur. It is now managed by his two sons, who each have over three decades of experience in the industry. The third generation, represented by Yash Sharma, is also actively involved in the business. Yash is leading the group with a professional approach, developing strategies to elevate the company to new heights. He is an alumnus of BITS Pilani and holds a business degree from HEC Paris.

❖ Collection Infrastructure: True Moat

Raw material is crucial in the PET recycling business, acting as a significant moat and entry barrier. Over the past 2.5 decades, GEL has established relationships with nearly 300 out of 800 dealers in India. This process takes time, and no new company can dominate the ecosystem in 1-2 years. GEL aims to increase its dealer count to 600-700 in the coming years. With Extended Producer Responsibility (EPR) norms, the number of dealers is expected to grow to over 1,500, significantly expanding the market.

GEL, with a consolidated capacity of approximately 196k tonnes per annum in FY24, is the largest player in India. The second-largest player has less than half of this capacity, at under 75k tonnes per annum, clearly indicating GEL's competitive advantage. In the recycled fibre and yarn space, there are around 30-35 players besides GEL, none of which have a capacity exceeding 50k-75k tonnes per annum, further highlighting GEL's procurement strength due to its longstanding reputation. (Nearest peers & their capacities : BLS Ecotech/JB Ecotex/Pashupati Polytex having capacity of 75k/72k/57k tonnes p.a.)The end-user industry, led by major players such as Coca-Cola and Pepsi, stands in stark contrast to the fragmented raw material sector. This fragmentation poses a challenge for Coca-Cola and Pepsi, as procuring directly from thousands of suppliers to maintain a continuous supply and fulfill their EPR duties becomes difficult.

❖ Shift from unorganized to organized

Before the advent of EPR, plastic packaging waste was either dumped or recycled in the fibre and yarn market, which was dominated by many unorganized and fragmented players. However, with the implementation of stricter EPR rules, the entire PET recycling market is becoming more formalized. All players in the ecosystem are now required to register with the Pollution Control Board and adhere to stricter regulations, making it increasingly difficult for unorganized and unstructured players to operate. While it is challenging to quantify the number of organized versus unorganized players, a similar trend was observed in battery waste management where EPR is already in effect, and the shift is moving towards organized players.

❖ Other factors that will drive industry growth

Increasing public consciousness for environmentally sustainable products, rising government support for recycling (EPR norms), large retailers opting for recycled products (H&M, Zara, Being Human), and the prioritization of ESG in corporate policies by various MNCs are driving the demand for recycled materials.

⊙ Snapshot of GEL's Business Model

Company Background

Established in 1987, GEL has emerged as the largest PET waste recycling player in India, with an installed capacity of ~1,96,000 TPA *(Source: IMARC Report)*. GEL is engaged in the manufacturing of Recycled Polyester Staple Fibre (RPSF), Dyed Texturised Yarn, and Recycled Spun Yarn, GEL has recently ventured into the production of rPET Chips, rPET Filament Yarn/Textile grade Chips, and Polypropylene Staple Fibre (PPSF). GEL's products find applications in the manufacturing of textiles (t-shirts, body warmers, dress material, etc.), functional textiles (non-woven air filter fabric, geo textiles, carpets, car upholstery, etc.), filtration and fillings (for pillows, duvets, toys, etc.), and Food & Beverages packaging. Recently, company has launched its own brand **"GoRewise"** which aims to close the plastic recycling loop by manufacturing quality products from recycled PET bottles.

The Company is led by Shri Shyam Sunder Sharma & he is further assisted by his sons Mr. Sharad Sharma (Managing Director) & Mr. Rajesh Sharma (Joint Managing Director) each having an experience of more than three decades in marketing and distribution and looks after overall operations of the company along with well qualified and experienced professionals having rich experience in the textile industry.

Goal

Aiming to become India's largest rPET player, targeting a **10-12% market share** of the ~2.8Mn tonne per year anticipated recycled PET market by 2029.

Manufacturing Plants along with capacities & products [FY24]

6 plants across India having a consolidated manufacturing capacity of ~1,96,000 tonne p.a. (includes recently commissioned 14k – 3rd rPET line)

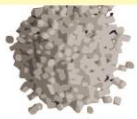
Plants	Installed Capacity (TPA)	Key Products Manufactured
Kanpur	18,000	rPET fiber,Dyed textured yarn
Rudrapur	39,600	rPET fiber
Bilaspur & Temra	49,200	rPET fiber,Spun yarn
Warangal	77,640	rPET granules,Filament yarn,RPSF,PPSF
Nepal	12,000	Washed flakes
Total	**1,96,440**	

Productwise	Installed Capacity (TPA)
rPET Fiber	1,09,200
rPET Spun Yarn	7,200
Dyed Textured Yarn	3,000
rPET Granules	42,000
B2F Chips/Filament Yarn	12,240
PPSF	10,800
Washed Flakes	12,000
Total	**1,96,440**

Products & customers

Old Products : rPET Fiber ; rPET Spun Yarn ; Dyed Textured Yarn

New Products : rPET Granules ; B2F Chips/Filament Yarn ; RPSF ; PPSF ; Washed Flakes
GEL has ~500+ product variants across different segments

Category		Details	Product Application	Target Customers/ Segments	Old/ New products	Cyclical/ Less Cyclical
Fibers						
	**Recycled Polyester Staple Fiber (RPSF)**	Short fibers produced from recycled PET, used in non-woven fabrics, filling materials, insulation, and geotextiles.	Non-woven fabrics, filling materials, insulation, geotextiles	Textile, Home furnishings	Old Product	Cyclical
	**Polypropylene Staple Fiber (PPSF)**	Processed Polyester Staple Fiber, which can include RPSF, used in similar applications as RPSF such as non-woven fabrics and filling materials.	Non-woven fabrics, ropes, carpets, upholstery		New Product	Less Cyclical
Yarn						
	**Recycled Polyester Spun Yarn (RPSY)**	Yarn spun from recycled PET fibers, used in textiles for clothing, T, home furnishings and industrial applications.	Textile for clothing , home furnishing, industrial use	Textiles	New Product	Less Cyclical
	**Dyed Texturised Yarn**	Texturized yarn made from recycled PET fibers, dyed and textured for use in	Body warmers, Dress material, Suitings,	Knitting, Clothing, Hosiery, Spinning	Old Product	Cyclical
	**Twist Filament Yarns**	Twisted filament yarn is a type of yarn made by twisting together multiple filaments of synthetic fibers. In the case of recycled PET (Polyethylene Terephthalate), twisted filament yarn would be produced by twisting together recycled PET filaments.	Textiles, Ropes, Cords	Textiles	New Product	Less Cyclical
Granules/Pellets Flakes						
	**rPET granules (Bottle grade & Textile Grade)**	Pellets or granules or films made from recycled PET, used as raw material in various industries such as packaging, textiles, and automotive.	Raw material for packaging, textiles, automotive, etc.	Food & Beverage Industry, FMCG, High end textile brands,	New Product	Less Cyclical
	**Flakes**		Packaging, polyester fiber production, thermoforming			

Recycled PET Classification Product Chart

As per Form	As per Source of Raw material	As per Grade	As per Product Colour	As per End Use
rPET Flakes rPET Chips rPET Fibers rPET Yarn	Bottles Containers Films Sheets	Grade A Grade B	Clear Transparent Coloured	Fibers Fibers & Sheets Strapping Food & Beverages, Containers & Bottles Non Food Containers and Bottles

400+ across 20+ countries (including India as well as globally) not contributing more than 3-4% to overall revenue. The top 10 customers contributed ~22% of total income during FY23 (vs FY22: ~19%), thus indicating diversified customer profile in terms of revenue.

In its traditional business, GEL primarily supplies to local brands and a few notable names such as Arvind and Vardhman Textiles. However, for its new rPET and filament yarn business, it is targeting FMCG and beverage companies like Coca-Cola and Pepsi. For filament yarn, the focus will be on lifestyle brands such as Zara, H&M, and Being Human.

Raw materials & its pricing

The primary raw material for both the traditional RPSF business and the new value-added rPET granules business is scrapped plastic bottles, though the processing methods for each product are distinct with average cost of bottle procurement being in the range of Rs.35-50 per kg.

Did vou know?

S&P Global has introduced India's inaugural price assessment for r-PET. This significant step is poised to enhance pricing transparency, particularly in response to the increasing demand for recycled plastics amid global energy transition initiatives. The introduction of the rPET price assessment will address the surging demand from market participants in Asia's rapidly evolving export market, providing them with reliable and transparent pricing information for this burgeoning sector.

Price Linkage to Crude Oil for traditional business of fiber & yarn

The prices of recycled polyester staple fiber (rPSF) and yarn, which are substitutes for man-made polyester fiber, are linked to crude oil prices.Man-made polyester, derived from crude oil, is a direct substitute for rPSF.Virgin PSF (polyester staple fiber) typically trades at around ±10% compared to rPSF.Consequently, the prices of virgin PSF, which are influenced by crude oil prices, impact GEL's rPSF business.Cotton prices influence the demand for man-made fibers versus cotton, affecting product selection between cotton and man-made polyester.Similarly, for the new value-added business, raw material procurement costs are expected to be in the range of Rs. 35-50 per kg.

End Products & its pricing mechanism:

The blended average realization for traditional products ranges from Rs. 85-90/kg, while for new products, it ranges from Rs. 120-125/kg. In comparison, PET resins are currently priced at Rs. 105/kg for virgin PET, and recycled PET resin commands a higher price, close to Rs. 120/kg. Despite the higher cost of recycled PET, regulations are driving its increased use.

Dealer Network:

GEL has a robust network of 250-300 dealers, ensuring no dependency on any single dealer. Additionally, GEL collaborates with these suppliers, maintaining an extensive collection system across the country. This network spans both the northern and southern regions of India, enabling the company to mobilize approximately 350 tonnes of PET waste bottles daily.

Over the past 2.5 decades, GEL has successfully penetrated nearly 300 of the total 800 dealers in India. Building strong relationships with these dealers takes time, and no new company can control the entire ecosystem within 1-2 years. Each dealer typically handles a capacity of 100-150 tonnes. In the recycled fibre and yarn space, there are approximately 30-35 players besides GEL, none of which have a capacity exceeding 75,000 tonnes per annum, highlighting GEL's procurement advantage based on its longstanding reputation.

GEL aims to increase its dealer count from 300 to 600-700 in the coming years. Additionally, due to Extended Producer Responsibility (EPR) norms, the total number of dealers is expected to grow to over 1,500 in the next few years, further expanding the market.

Margin Profile:

In traditional business, margins are determined by market demand and supply.

However, for the new value-added business, GEL currently does not have long-term contracts. With EPR regulations taking effect from FY26, GEL aims to secure long-term agreements for its new rPET business. GEL plans to adopt an absolute EBITDA approach for its capex, where EBITDA is secured through conversion fees and the cost of raw materials is covered by the customer. If successful, this will enable GEL to achieve a strong and sustainable margin & RoCE profile.

GEL aims to secure 50-60% of its business through long-term contracts with major players to ensure it reaches its breakeven point, while 20-30% of its business will be conducted on a spot basis. Long-term contracts stipulate a minimum volume commitment and typically span an average period of 3-5 years.

Domestic: Export Mix:

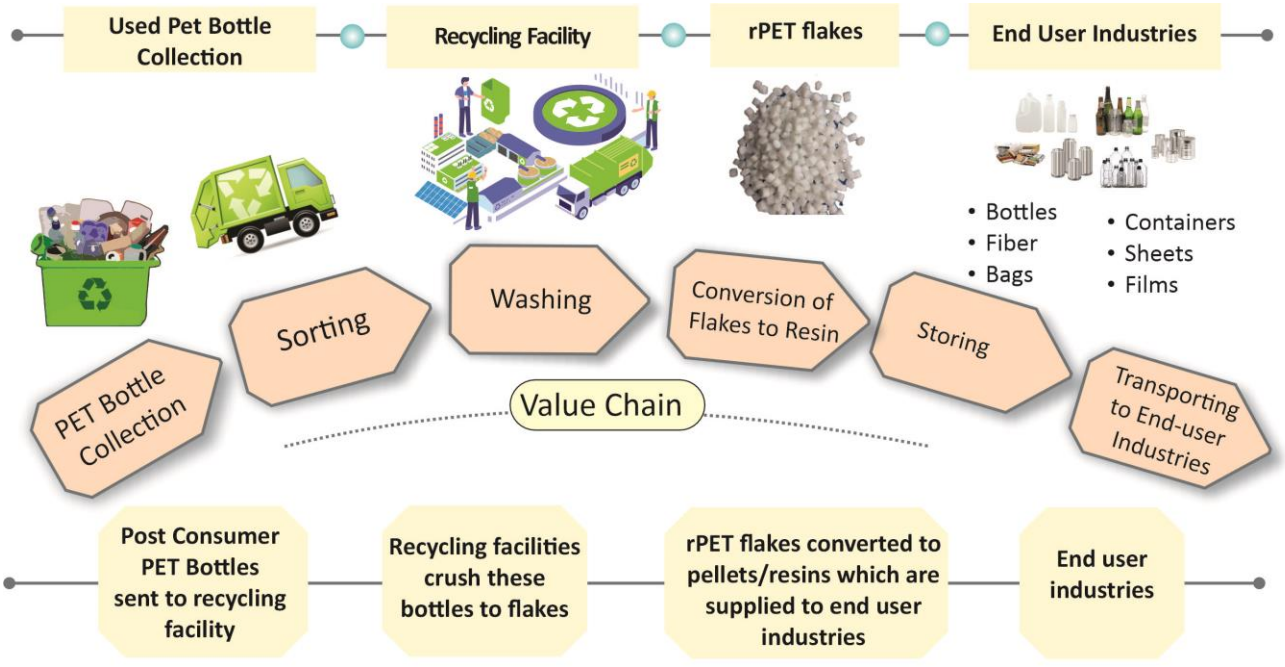
GEL primarily derives its revenue from the domestic market, accounting for approximately 89% of its total revenue, while exports make up a smaller portion, contributing 11% of its revenue in FY23.

A significant opportunity lies in the export market for rPET chips, especially as Europe will implement new regulations starting in FY26. The expected prices in the European market will be considerably higher, ranging from Rs.150-155/kg, compared to the Indian market's Rs.120-125/kg. This information was highlighted by Uflex during an analyst meeting.

Value Chain of PET Waste collection:

The value chain of PET waste collection is as follows:

Rag Picker → Aggregator → Baler/Compressor → GEL



Total employees: 2800+ (with majority permanent employees)

Certifications

- ISO 9001:2015 (Quality Management System)
- ISO 14001:2015 (Environmental Management System)
- OH&S 45001:2018 (Occupational Health & Safety Management System)
- OEKO-TEX Standard 100, Product Class 1 certification from Hohenstein Textile Testing Institute (Germany)

• Ocean Bound Plastic Certificate Global recycled standard from CU certifications

• USFDA (US Food & Drug Administrator), EFSA (European Food Safety Authority), FSSAI (Food Safety and Standards Authority of India) for food grade application

Credit Rating (As of Dec'23)

Long Term Bank Facilities: CARE A; Stable

Short Term Bank Facilities: CARE A1

Competitors

Besides GEL, there are currently 30-35 significant players in the RPSF business, each with capacities ranging from 50,000 to 75,000 tonnes per year. BLS Ecotech/JB Ecotex/Pashupati Polytex having capacity of 75k/72k/57k tonnes p.a. According to unverified sources, Indorama Ventures plans to set up a plant with a capacity of 50-60k tonnes per year.

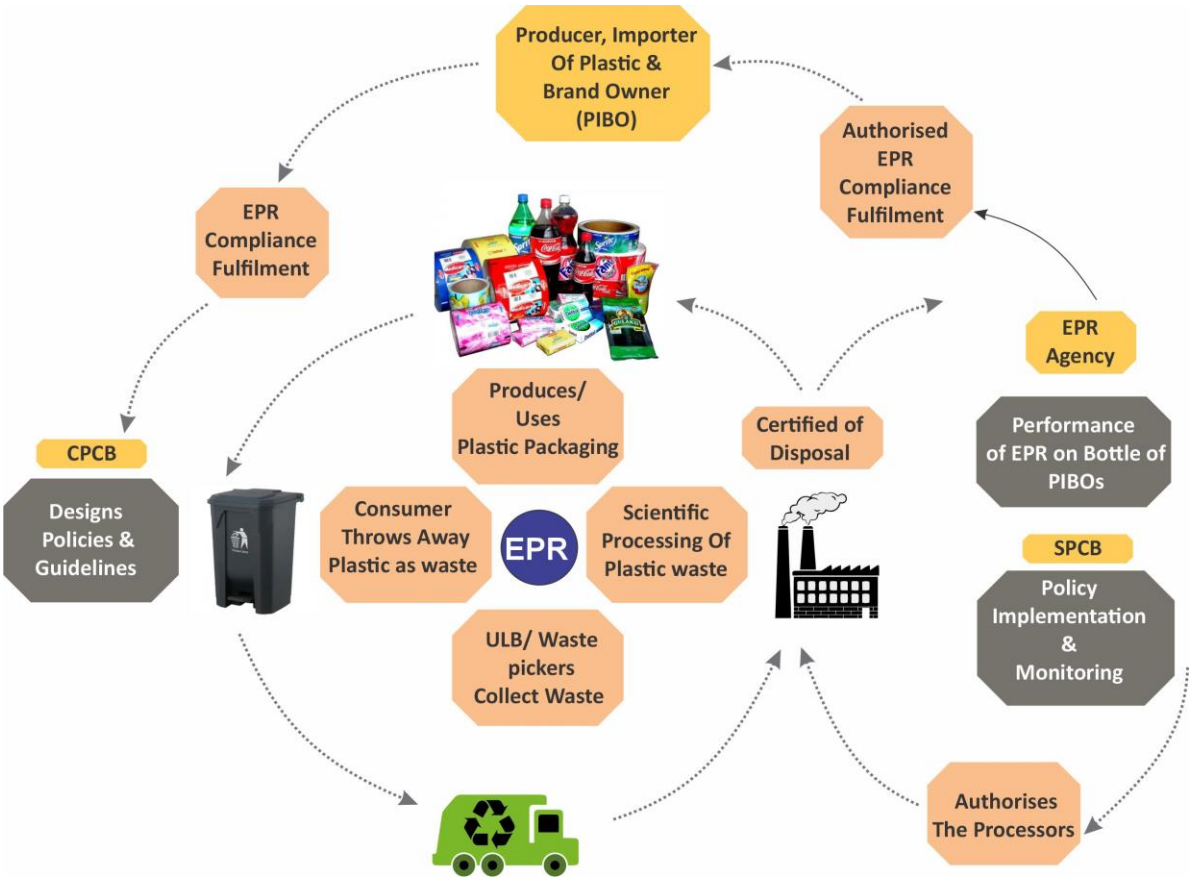
Dealers

Dealers in the plastic industry are generally not tied to specific companies, but GEL, with its three decades of experience, has established long-standing relationships with them.

Exhibit 1: EPR Norms for plastic packaging

Extended Producers Responsibility (EPR) regime is under implementation as per Plastic Waste Management Rules, 2016 (PWM), according to which it is the responsibility of **Producers, importers, brand owners, and plastic waste processors (PWPs) to ensure processing of their *PLASTIC PACKAGING WASTE* through recycling, re-use or end of life disposal (such asco-processing/Waste-to-energy/Plasticto-oil/roadmaking/industrial-composting).**

As per these guidelines Producers, importers, brand owners, and plastic waste processors (PWPs) are required to register through the centralized portal developed by the Central Pollution Control Board (CPCB). https://eprplastic.cpcb.gov.in/#/plastic/home



CPCB = Central Pollution control board; EPR = Extended Producers responsibility; SPCB = State Pollution Control Board; PIBO = Producers, Importers, Brand Owners

The EPR portal will help in improving accountability, traceability, and transparency of fulfilment of EPR Obligations.

The new PWM rules aim to implement waste management in four categories of plastic packaging:

Category 1:	Rigid plastic packaging
Category 2:	Flexible plastic packaging with a single layer or multilayer (more than one layer with different types of plastic)
Category 3:	Multilayer packaging (at least one layer of plastic and at least one layer of material other than plastic)
Category 4:	Plastic sheet or like used for packaging as well as carry bags made of compostable plastics covering both pre-consumer and post-consumer plastics.

These rules establish the responsibility of producers, importers as well as brand owners (PIBOs), among other obligated entities, who use these types of plastic to

Stage 1. Recollect (EPR w.e.f. FY22),

Stage 2. Recycle (w.e.f FY25) and

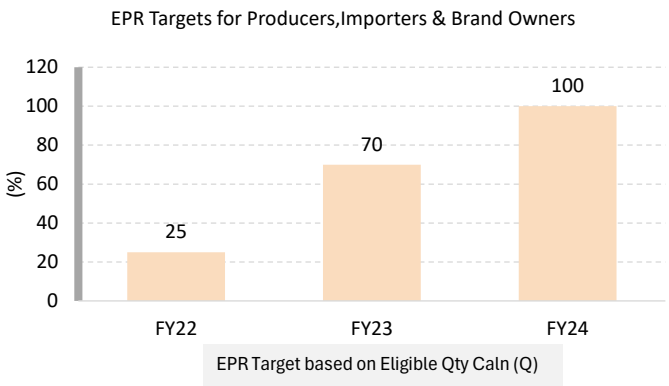
Stage 3. Use of recycled plastic in the new packaging products manufactured/used by them (w.e.f FY26),

with the minimum thresholds for each becoming more stringent over the years

EPR targets

Stage 1.Recollect (EPR w.e.f. FY22)

(The recollect stage involves collecting pre & post-consumer plastic waste from the market, based on calculations specified in regulations.)



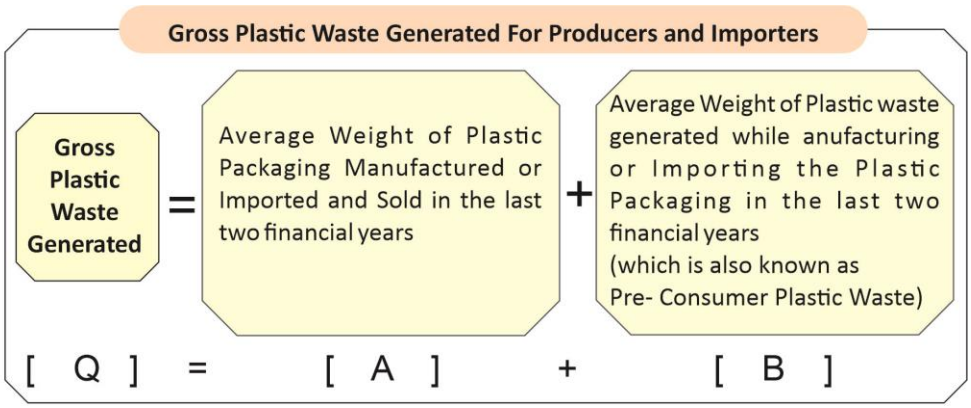
EPR target (in MT) of waste collection for PIBOs (Producers, Importers, Brand Owners)

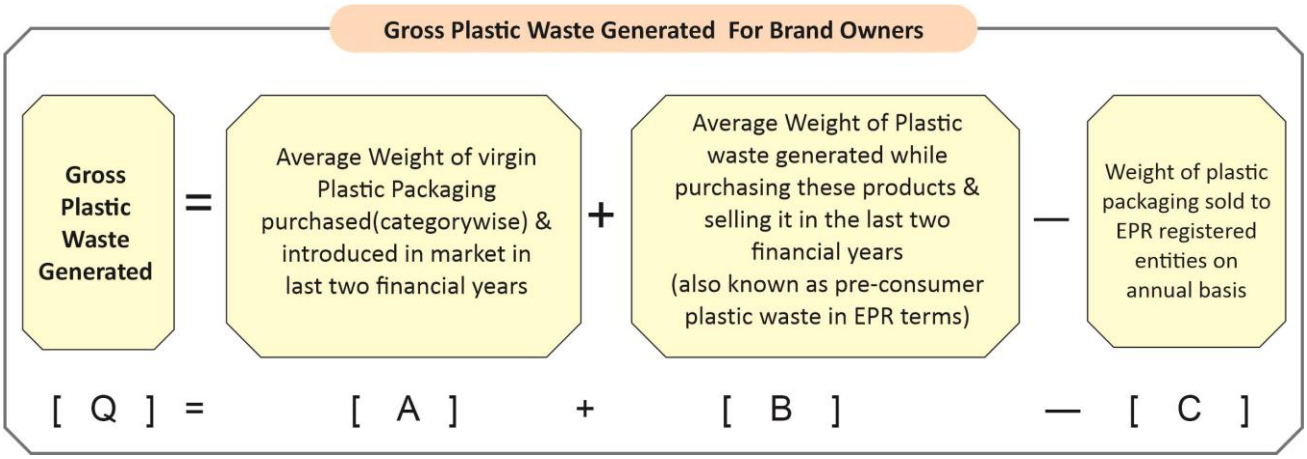
Eligible Quantity in MT (Q) on which PIBOs (Producers, Importers, Brand Owners) target is decided shall be the average weight of virgin plastic packaging material (category-wise) purchased and introduced in market in the last two financial years (A) plus average quantity of (B) of pre-consumer plastic packaging in the last two financial years.Further, reducing the quantity of plastic packaging supplied directly to the entities for Brand Owners (C) other than those, which are micro and small enterprises in the previous financial year

Q (in MT) = (A + B) - C

The EPR Target shall be determined, category-wise, as given below:

F.Y.	EPR Targets for Producers, Importers & Brand Owners
FY21-22	5% of Gross Plastic Waste Generated
FY22-23	70% of Gross Plastic Waste Generated
FY23-24	100% of Gross Plastic Waste Generated





Let's take an example for a beverage company to illustrate the calculation of the Eligible Quantity (Q) for F.Y.2024-25 based on the given formula (Assumed Category 1 Plastics for Brand Owner):

(A) Average weight of virgin plastic packaging material purchased and introduced in the market in the last two financial years:

- Financial Year 2022-2023: 500 MT
- Financial Year 2023-2024: 550 MT
- Average (A) = (500 + 550) / 2 = 525 MT

(B) Average weight of plastic waste generated while purchasing these products & selling it in last two financial years:

- Financial Year 2022-2023: 50 MT
- Financial Year 2023-2024: 60 MT
- Average (B) = (50 + 60) / 2 = 55 MT

(C) Quantity of plastic packaging supplied directly to entities for Brand Owners other than micro and small enterprises in the previous financial year:

- Financial Year 2023-2024: 75 MT

Now, let's calculate the Eligible Quantity (Q):

Q = (A + B) - C

= (525 + 55) - 75

= 580 - 75

= 505 MT

So, the Eligible Quantity(Q) for the beverage company for the current financial year FY2024-25 is 505 metric tonnes. The EPR target for the fiscal year 2024-25 is 100% of the eligible quantity (Q), which for us amounts to 505 MT. Thus, beverage company is required to collect 505 MT of plastic waste from the market in the fiscal year 2024-25. This can be done directly, through a third party, or by purchasing EPR credits from recyclers who collect pre- and post-consumer plastic waste.

Brand owners who meet their EPR targets can use the surplus for offsetting previous year's shortfall, carry it forward, or sell the EPR credits to other producers/importers/brand owners who are unable to meet their targets.

FAQS

▶ Are people genuinely meeting the EPR standards in practice?

In reality, most companies are either obtaining certificates or credits from recyclers without genuine compliance, or they are not adhering to the standards at all. However, this practice may be short-lived as penalties and enforcement regulations become stricter.

▶ Are plastic recycling credits/EPR certificates tradeable, and if so, what income can one generate from them?

Yes, plastic recycling credits are tradeable, and they can even generate income.

Did you know?

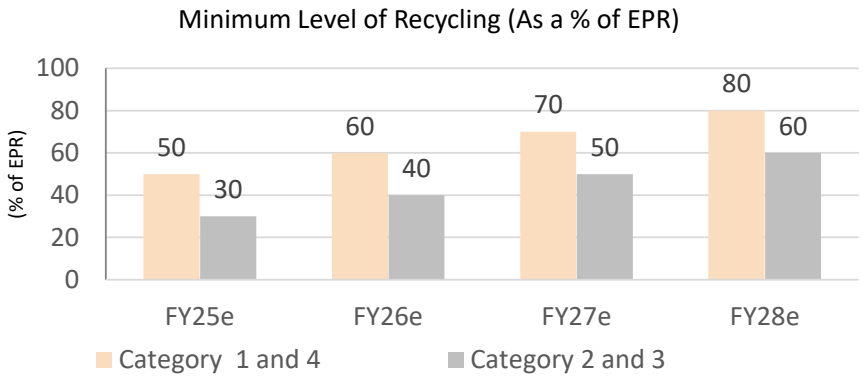
GEL generated approximately earned ₹110 million from recycling credits in FY24 from around 100,000 tonnes that it recycles

Currently, PROs (Producer Responsibility Organizations or service providers) act as intermediaries by managing documentation and linking recyclers to the plants of brand owners.

Stage 2 : Recycle (w.e.f FY25)

(The recycling stage involves recycling plastic packaging waste collected as a percentage based on its category. This recycling can be done by the companies themselves or outsourced to other players to do it on their behalf.)

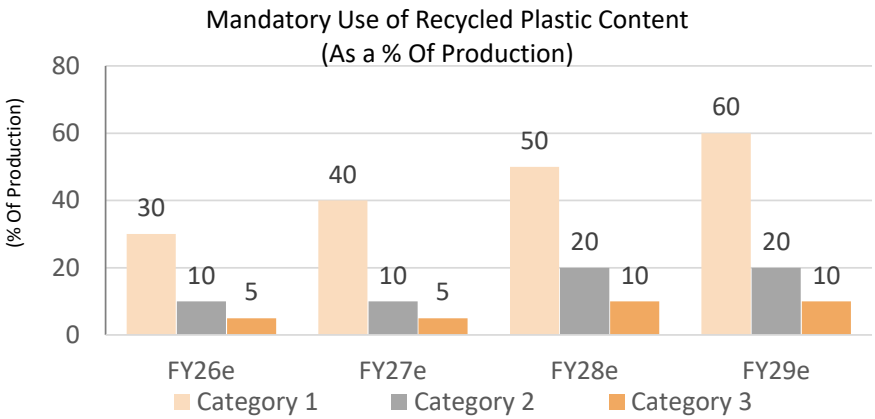
Obligation for recycling by different categories of plastic users



Category 1 : Rigid Plastics 2 : Flexible Plastics 3 : Multi-layered plastics (MLPs) 4: Compostable Plastics

Assuming the above beverage company falls in Category 1, as per minimum level of recycling the above beverage company will have to recycle 50% of Eligible Quantity(Q) for FY2024-25 derived above = 50% of 505 metric tonnes i.e. 252.5 metric tonnes in FY2024-25

Stage 3 : Mandatory use of recycled plastic in the new packaging products manufactured/used by them (w.e.f FY26)



Whereas from FY26,the above beverage company will have to additionally use 30% recycled plastic content in its manufacturing process which will increase every year reaching to 60% recycled plastic content by FY29

Source: https://eprplastic.cpcb.gov.in/#/plastic/home,Company, Dalal & Broacha Research

Are companies that do not comply with EPR regulations subject to penalties?

Yes, non-compliant companies face penalties ranging from Rs. 5-20 per kg. However, many avoid these penalties by obtaining certificates from third parties that collect and recycle products on their behalf.
Penalties for non-compliance are as follows:
- 1st offense: Rs. 5/kg
- 2nd offense: Rs. 10/kg
- 3rd offense: Rs. 20/kg

Exhibit 2: 7 Types of plastic & its recyclability

Source: Industry, Dalal & Broacha Research

The plastic industry in India is one of the most important industries in the country's economy. The plastic industry traces its roots back to 1957 when polystyrene was first produced in India. Plastic consumption in India grew by 23-fold since then, reaching about 22 million tonnes. Per capita plastic consumption also grew from 1 kg per capita to 15 kg per inhabitant. India accounts for about 6% of global plastic use and is the **third largest consumer** of the material after China and the US. Economic growth and a growing population are expected to continue to drive plastic use in India over the coming decades. Source: https://www.mordorintelligence.com/industry-reports/analysis-of-plastic-industry-in-india

Polyethylene Terephthalate (PET) - #1:

Recyclability: PET is one of the most easily recycled plastics, commonly used in soft drink, water, and other beverage bottles, detergent and cleaning containers, and food containers. It is recycled into new bottles, polyester for fabrics, carpet, and other products.

High Density Polyethylene (HDPE) - #2:

Recyclability: HDPE is easily recycled and accepted at most recycling centers. It is used in milk and water jugs, laundry detergents, shampoo containers, and more. It can be recycled back into new containers or converted into plastic lumber, pipes, and toys.

Polyvinyl Chloride (PVC) - #3:

Recyclability: PVC is one of the least recyclable plastics due to additives and potential health risks associated with its disposal. It is used in various products like clear food packaging, detergents, and vinyl pipes.

Low Density Polyethylene (LDPE) - #4:

Recyclability: LDPE is not usually recycled, although it can be. It is used in bread bags, plastic wraps, and some bottles. When recycled, it can be transformed into bin liners and packaging films.

Polypropylene (PP) - #5:

Recyclability: PP is not easily recycled, but some recycling programs accept it. It is used in deli containers, yogurt cups, and more. When recycled, it is turned into items like pallets, ice scrapers, and battery cables.

Polystyrene (PS) - #6:

Recyclability: PS is recyclable but not economically viable in most cases. It is used in CD cases, food containers, and packaging. When recycled, it can be turned into insulation, school supplies, and other products.

Miscellaneous Plastics - #7:

Recyclability: Plastics under code 7 are not easily recyclable and contain toxic chemicals like BPA. They are used in various products like sunglasses, computer casings, and baby bottles. When recycled, they are primarily turned into plastic lumber and specialized products.

These plastics vary in their recyclability, with some like PET and HDPE being more commonly recycled, while others like PS and miscellaneous plastics face challenges in the recycling process due to economic and technical factors.

Bursting the Myth!

Can PET be recycled indefinitely, or does it change its properties over time?

After 2-3 cycles, as the proportion of recycled PET increases, more virgin PET must be added to maintain quality. This is why the recycled content is typically capped at 60%, considering all these factors. By mixing virgin PET resin, the product can be recycled an unlimited number of times.

Exhibit 3: Market sizing of Plastics,PET,rPET & rPSF [Addressable market opportunity for GEL]

Seizing the demand for rPET in bottle & food grade applications, GEL aims to capture a significant share, between 10-12%, of the anticipated rPET (recycled polyethylene terephthalate) market by 2030. The expected total market size for rPET by 2030 is projected to be ~2.8 Mn tonnes which is currently ~0.9 Mn tonness (The pricing of rPET is 10-15% higher than that of virgin PET). This means GEL's target market share translates to capturing 2,00,000 to 3,00,000 tonnes of rPET annually by 2030 from current levels of 42,000 tonnes (6-7x current size). GEL has already invested Rs.4.5 bn for a 42,000 tonnes per annum rPET capacity at Warangal, from a total capital expenditure outlay of Rs.6.5 bn.

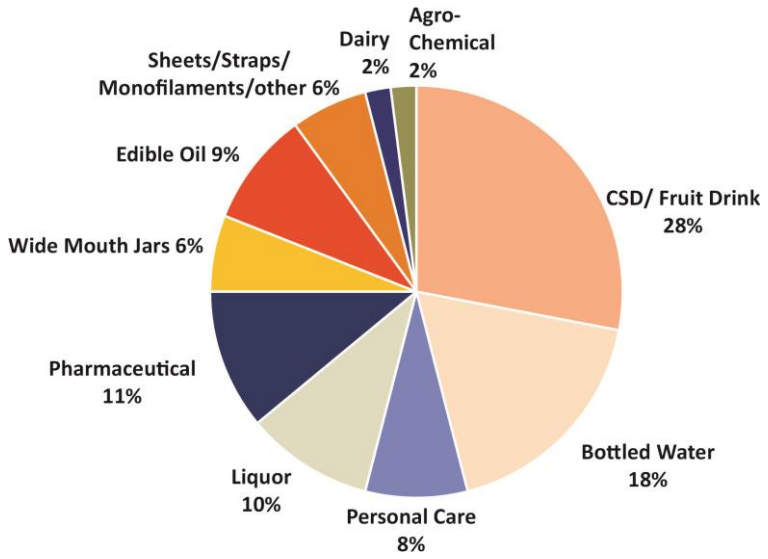
Particulars	2024	2025e	2026e	2027e	2028e	2029e	CAGR (24-29e)	
Indian Plastic Waste Generation (Mn Tons)	19.6	21.7	23.9	26.3	28.9	31.7	10.1%	
Indian PET Waste Generation (Mn Tons)	2.3	2.5	2.8	3.2	3.6	4.2	13.3%	
Indian PET Waste Recycling (%)	41%	49%	54%	59%	63%	65%	9.9%	Recycling rate likely to increase to ~65% from ~40% owing to EPR
Domestic Plastic Market (Mn Tons)	26.9	29.5	32.3	35.3	38.5	41.9	9.3%	
Domestic PET Market (Mn Tons)	2.3	2.5	2.8	3.2	3.6	4.1	12.3%	
Domestic rPET Market (Mn Tons)	0.9	1.2	1.5	1.9	2.3	**2.8**	24.5%	rPET market to grow @ 2x of PET market owing to EPR
Domestic rPSF Market (Mn Tons)	0.6	0.6	0.7	0.7	0.8	0.9	8.7%	
PET as a % of total plastic market (%)	8%	9%	9%	9%	9%	10%		
Domestic Plastic Market (Bn $)	48.6	56.3	64.8	74.1	84.4	95.8	14.5%	
Domestic PET Market (Bn $)	4.5	5.5	6.7	8.3	10.1	12.2	22.3%	
Domestic rPET Market (Bn $)	1.3	1.9	2.6	3.5	4.6	5.9	35.7%	In value terms also rPET market is anticipated to grow @ >35% owing to supply demand mismatch leading to better realisations
Domestic rPSF Market (Bn $)	0.6	0.7	0.8	0.9	1.0	1.1	13%	
GEL's market share **[Assumed]**						10%		
GEL's anticipated capacity (Mn Tons)						0.28		
GEL's current capacity						0.04	6.6x	6-7x rPET capacity of current capacity

Source : Industry,Dalal & Broacha Research ; Domestic rPET includes recycled PSF,recycled flakes & chips everything

(Note : If we consider only the rPET flakes and chips market by FY29-30, it is expected to reach approximately 1 million tons. With GEL aiming for a capacity of 200,000-300,000 tons, it can capture a market share of 20-30% in the rPET flakes and chips segment.)

Exhibit 4: PET resin consumption end use (94% being used for packaging materials : food & non food)

PET is a thermoplastic polymer resin, belonging to the polyester family. In India PET has become the primary preference in the packaging sector owing to the rigidity it offers, its eco-friendly attribute, and its recyclable nature. The demand for PET in the packaging of food and beverages witnessed a steep inclination after the sudden outbreak of Coronavirus in the final quarter of FY20. This astonishing increase in demand is a ripple effect of the increasing awareness of hygiene, prompting an enhanced procurement of disposable and packaged items to reduce the chances of infection by any means. Moreover, the increasing preference for PET bottles over aluminum and glass packaging, in the rapidly expanding Indian pharmaceutical sector owing to its quality standard and safety is anticipated to further propel the demand for PET in the forecast period.



Source : Industry,Dalal & Broacha Research

Polyethylene Terephthalate is being manufactured in India on massive capacity by Reliance Industries followed by three other companies. Hence, the majority of the PET demand in India is satisfied by domestic production but cheap imports from other countries do have an impact on Indian production. However, the immense production capacity of PET in the country is also sufficient to cater to the export requirements from countries like Algeria, Bangladesh, Egypt, etc.

Key Feedstocks: PET production depends on the availability of **Monothylene Glycol (MEG) and Purified Terephthalic Acid (PTA)**.PET can also be segmented based on its type as CSD (Carbonated Soft Drinks), Water Packaging, Food Packaging, Non-Food Packaging, Sheets etc as mentioned in exhibit below.

Did you know?

By 2030, Coca-Cola is projected to consume ~600,000-700,000 tonnes of PET resins annually. With a mandate to incorporate 60% rPET by then, this presents a market opportunity of about 360,000 tonnes per year for Coca-Cola. Coke and Pepsi together account for a whopping 40% of all PET bottle consumption in India. By 2030, PET bottles will make up 56% of the packaging used by the non-alcoholic beverage industry globally.

PET industry growth drivers in India

By 2030, India is expected to be the largest youth consumer market in the world with 357 Mn consumers aged under 30 years. This will lead to an increase in discretionary spend.

PET is a preferred replacement for conventional packaging materials due to its flexibility, simplicity, durability and recycling capacity.

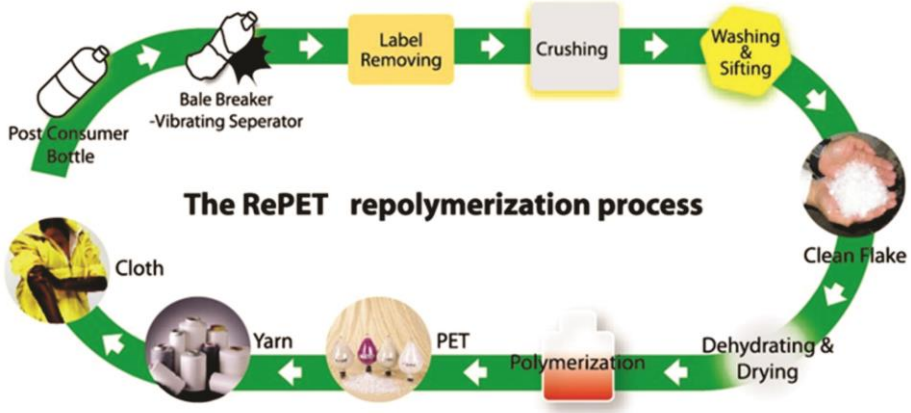
PET resin demand is being stimulated by the increase in packaging demand of alcoholic and non-alcoholic drinks and make products more affordable.

The pharmaceutical, food and beverage industries have switched to PET packaging due to greater demand for the maintenance of higher quality standards and overall health has become more important.

By 2025, major FMCG businesses hope to cut their use of virgin plastic in packaging in half.

Source: Coherent Market Insights, Brand Equity

Exhibit 5: PET waste recycle process to convert pre & post-consumer plastic into rPET resin/granules



Source : Industry,Dalal & Broacha Research

Exhibit 6: Financial Projection snapshot of GEL

(Rs.Mn)	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e	CAGR FY23-27e (%)	FY23 being a normal year is assumed for CAGR purpose
Rev from traditional biz	7,511	10,214	11,796	11,229	11,550	12,128	12,734	2%	Assumed nominal growth of 5% in traditional business
Rev from new value added biz	-	-	-	-	5,643	6,618	10,886		
Total Sales	**7,511**	**10,214**	**11,796**	**11,229**	**17,193**	**18,746**	**23,620**	19%	Growth largely driven by rPET demand & capacity expansion
Other Income	94	69	134	146	110	110	110		
EBITDA	**845**	**1,139**	**1,277**	**1,379**	**2,545**	**2,811**	**3,686**	**30%**	EBITDA margins better in rPET leading to superior growth compared to revenue
Interest	-88	-98	-169	-449	-308	-428	-626		
Depreciation	-272	-284	-292	-487	-558	-620	-692		
PBT	579	826	950	589	1,788	1,873	2,479		
Tax	-145	-208	-251	-183	-393	-393	-496		
Adj PAT	**435**	**619**	**699**	**406**	**1,395**	**1,479**	**1,983**	**30%**	
No.of Shares (in Mn)	22	22	22	22	26	27	27		
EPS (₹)	20	28	32	18	53	54	73	23%	Warrant conversion + QIB leading to lower EPS growth compared to PAT growth
CMP	1,585	1,585	1,585	1,585	1,585	1,585	1,585		
Current P/E				87x	30x	29x	22x		
Target PE Multiple							25x		EPS is expected to grow at 23% CAGR from FY23-26e ; we assume ~1x PEG & hence 25x PE multiple
Target Price							**1,815**		
Potential Upside (%)							**14%**		

Revenue contribution (%)	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e
Traditional biz	100%	100%	100%	100%	67%	65%	54%
Value added biz	0%	0%	0%	0%	33%	35%	46%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Margins (%)	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e	
Traditional biz EBITDA	11.2%	11.2%	10.8%	12.3%	11.0%	11.0%	11.0%	
Value added biz EBITDA	N.A.	N.A.	N.A.	N.A.	22.0%	22.0%	22.0%	
Total EBITDA	11.2%	11.2%	10.8%	12.3%	14.8%	15.0%	15.6%	
PAT	6%	6%	6%	4%	8%	8%	8%	
ETR	25%	25%	26%	31%	22%	21%	20%	Warangal plant eligible for 17% concessional tax
Avg borrowing cost					8.5%	8.5%	8.5%	
Depn Rate					5%	5%	5%	Avg life of asset being 18 Yrs ; Depn rate = ~5.5%

Particulars	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e
Dom rPET cap (Tons p.a.)				9,00,000	12,00,000	15,00,000	19,00,000
rPET Cap (Tons p.a.)				42,000	42,000	70,000	98,000
GEL's market share based on cap (%)				5%	4%	5%	5%
Capex in model (Rs.Mn)	593	2,766	2,049	1,567	-	3,000	3,000
Asset T/O						0.8x	0.8x
Rev on full cap utilisation					-	2,400	2,400

2x capacity required over next 3-4 yrs to fulfill EPR

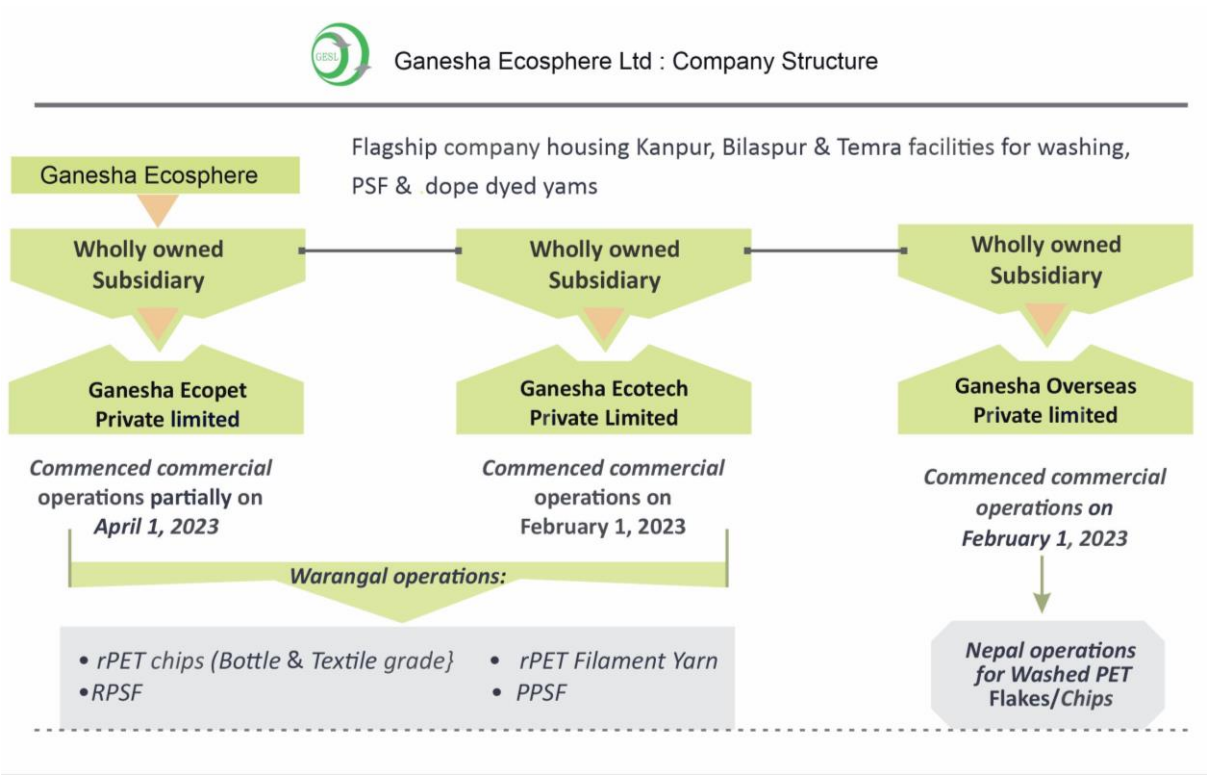
(Rs.Mn)	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e
CFO	274	648	202	435	-949	1,832	1,141
CFF	232	2,075	1,283	2,228	977	2,892	157
Cash Balance	152	230	62	1,532	451	2,164	450
Total available cash for capex	**658**	**2,954**	**1,548**	**4,195**	**479**	**6,888**	**1,747**
CFO/EBITDA	0.3x	0.6x	0.2x	0.3x	-0.4x	0.7x	0.3x

CFO likely to improve on lower working capital requirement in value add business
~Rs.3bn to be funded via loans & balance through internal accruals

Sufficient cashflows to fund capex

Source: Company, Dalal & Broacha Research

Exhibit 7: GEL Company Structure



Source: Company, Dalal & Broacha Research

In Warangal, Ganesha Ecosphere Ltd established two separate subsidiaries: **Ganesha Ecopet Pvt Ltd (all new value added final products) and Ganesha Ecotech Pvt Ltd (washing line).** This strategic decision was influenced by advice from European consultants, aiming to streamline regulatory compliance. Producing recycled PET (rPET), which is a food-grade product, requires stringent approvals from bodies like the USFDA and EFSA. By creating distinct subsidiaries, the company can better navigate these rigorous regulations, as the traditional fiber and yarn production from plastic bottles involves different processes that may not be as clean as the rPET process.

Ganesha Overseas Private Limited :

The decision to enter the Nepal market for washed flakes was driven by the lack of recycling facilities there, which offers a cost advantage in procurement of around 7-8%.

Did you know?

Nepal being a landlocked country that relies on major supplies from India and neighboring countries via road transport. However, when trucks return to Nepal, they are often empty. By refilling these trucks with washed flakes for the return journey, transport costs become very nominal, creating a win-win situation for both parties.

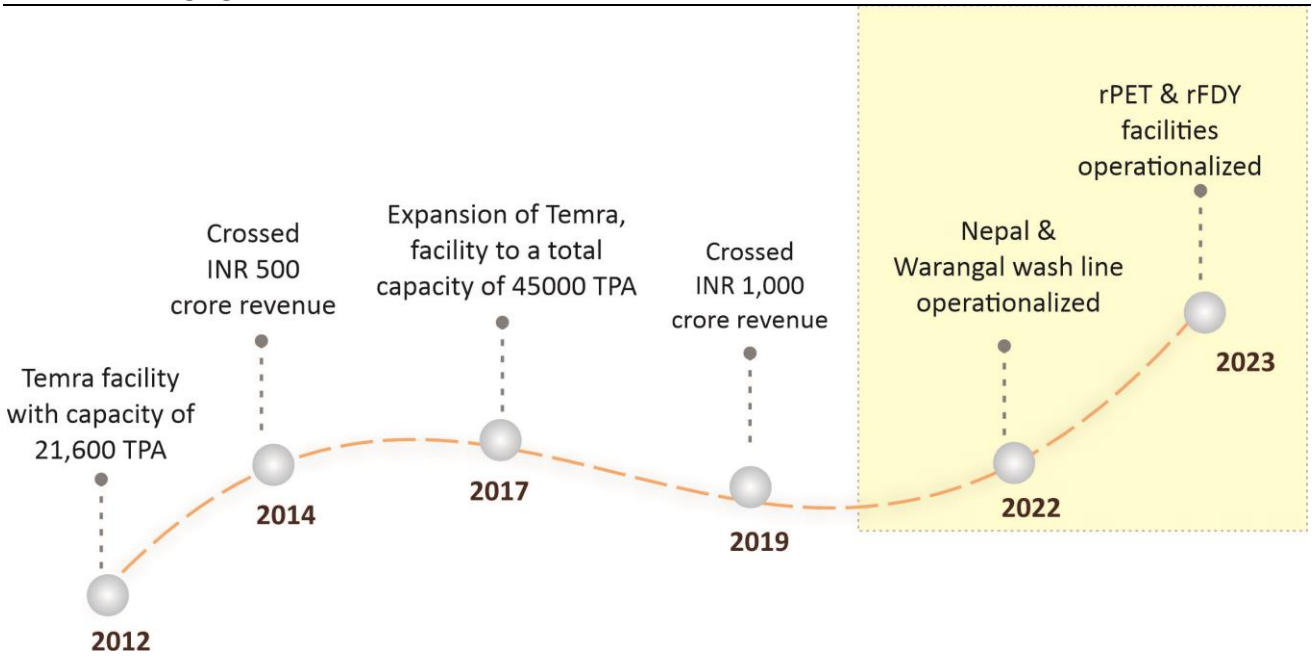
Washed Flakes: GEL and other companies are permitted to import a maximum of 15% of their production from the previous year. GEL has strategically selected Nepal as a source for importing low-cost flakes, leveraging the less mature recycling industry in Nepal. Given Nepal's reliance on imports from India and often empty return trucks, GEL benefits from acquiring low-cost flakes at minimal transportation expenses.

There is a 15% import restriction on washed flakes, but there is no restriction on importing rPET chips.

Fun Fact

There is a 15% import restriction on washed flakes, but there is no restriction on importing rPET chips.

Exhibit 8: Changing Product mix of GEL from traditional commoditised business to value added rPET business



Source: Company, Dalal & Broacha Research

GEL has embarked on a new strategic direction since 2023, aiming to penetrate the food-grade recycled PET (rPET) chips market. This shift is anticipated to gain regulatory support due to Extended Producer Responsibility (EPR) mandates in plastic waste management. The company's business mix, which was entirely focused on traditional recycled fiber and yarn in FY23, is projected to evolve. By FY27, GEL expects an equal distribution of its business between traditional recycled fiber and yarn (50%) and the new, value-added rPET granules for the food packaging sector (50%).

Exhibit 9: GEL Key investments /Tie-ups/Strategic partnerships

Source: Company, Dalal & Broacha Research

GEL has strategically decided to invest Rs. 160 Mn (~2.5% of their share capital) in "Race Eco Chain" to enhance its PET waste raw material supply chain (Jun-24). This investment will be entirely in cash. Race Eco Chain specializes in the collection of PET bottles, addressing the industry's biggest challenge and competitive advantage: securing raw materials. With Race collecting 7,000-8,000 tonnes of PET bottles per month (~100,000 tonnes annually), GEL has entered into an agreement that grants them the right of first refusal on 75% of Race's buffer raw material. This arrangement provides GEL with access to an additional 5,000-6,000 tonnes of PET waste per month. This dedicated supply is secured by an agreement.

Companies like Coca-Cola and other brands require complete traceability of raw materials. ***Race Eco Chain is a unique player leading the transformation of the unorganized sector to an organized one by creating robust traceability in the raw material ecosystem.***

About Race Eco Chain : RACE Eco Chain Ltd is a leading recycling company in India that promotes sustainability by organizing the unorganized plastic waste market and manufacturing recycled products from collected waste. They have built a comprehensive network of over 500 waste suppliers across India, streamlining the collection and recycling process while prioritizing environmental, social and governance factors in their operations.

Race Eco Chain BSE Notification : https://si-bse-announcements-attachments.s3.amazonaws.com/7a5f90ac-1e0f-414c-a11d-54d911748221.pdf

GEL had entered into a definitive agreement with **Manjushree Technopack Ltd** for a 1% stake in its Warangal subsidiary (comprising Ganesha Ecopet Pvt Ltd and Ganesha Ecotech Pvt Ltd), valuing the stake at Rs. 15 billion as of September 2023. However, GEL has decided not to proceed with this arrangement. The investment by Manjushree was intended to be strategic, involving a 1% stake in the Warangal subsidiaries. Nevertheless, GEL chose not to finalize the deal due to consolidation challenges, as retaining 100% ownership ensures the subsidiaries remain wholly owned, whereas even a 1% dilution would result in the loss of that status.

Also, **Ganesha ecopet private limited,** a wholly owned subsidiary of the company, entered into a collaboration agreement with **Manjushree technopack limited** to co-develop, co-market, and supply integrated end-to-end recycled plastic packaging solutions for both domestic and international markets. The agreement, **valid for four years**, aimed to provide a one-stop solution for brands' rigid plastic packaging needs, in compliance with the plastic waste management (amendment) rules, 2022. This partnership was intended to support the Indian government's target of replacing up to 60% of virgin plastic with recycled plastic by FY29 and to accelerate the adoption of 100% recycled plastic bottles.

About Manjushree: Manjushree Technopack Ltd is a leading rigid plastic packaging company in India that offers innovative and sustainable solutions for diverse industries. The company leverages cutting-edge technology to drive innovation and enhance its packaging solutions, and is committed to green energy practices, prioritizing the use of renewable energy sources throughout its operations.

Manjushree Technopack Ltd BSE Notification : https://si-bse-announcements-attachments.s3.amazonaws.com/493729eb-fc47-4bc7-8a4a-fa352dbdb202.pdf

https://si-bse-announcements-attachments.s3.amazonaws.com/579d2cb8-dc28-481d-b003-1d02dd136934.pdf

Manjushree Website : https://www.manjushreeindia.com/

Technology Implementation and Sustainability Partnership with Applied DNA Sciences Inc.

Ganesha Ecosphere Ltd. (GEL) has partnered with Applied DNA Sciences, Inc. to enhance the traceability and authenticity of recycled polyester (rPET) fibers and yarns. This collaboration involves deploying the CertainT® platform and the SigNature® T-100 tracer system to tag and verify rPET, ensuring its authenticity and sustainability.

Addressing Traceability Challenges

After a garment is made, it is challenging to determine if it is produced from recycled fiber or yarn. This partnership with Applied DNA Sciences addresses this issue by providing a reliable solution for tracing rPET throughout the supply chain.

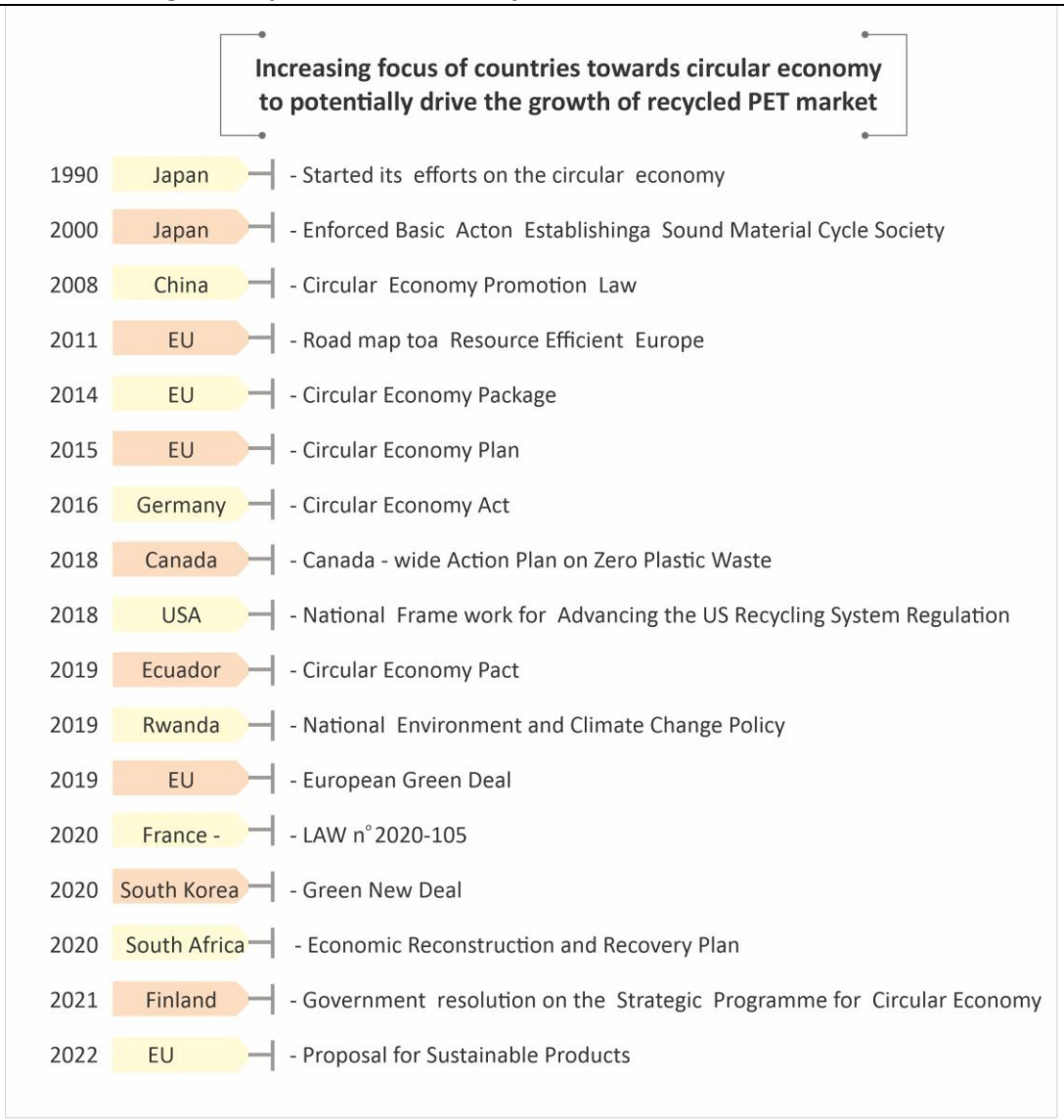
Supporting Sustainability Goals to create presence in export markets

This collaboration aims to support brands and textile manufacturers in meeting their sustainability objectives by offering a trusted method for rPET traceability. Ganesha Ecosphere, India's largest rPET fiber producer, will leverage Applied DNA's expertise in PCR-based DNA manufacturing and nucleic acid-based technologies to secure the recycled polyester supply chain.

This initiative aims to establish GEL's presence in the export market, particularly in the USA and Europe, where sustainability is a significant concern. Customers in these regions will seek the DNA traceability provided by this collaboration to ensure the authenticity and sustainability of their products.

Applied DNA Sciences Inc BSE notification :
https://ganeshaecosphere.com/admin/UploadedFiles/ContentImages/CorporateAnnouncements/Intimationdated20.10.2021_PressRelease.pdf

Exhibit 10: India leading the way to circular economy



Source: Company, Dalal & Broacha Research

Unlike in the past, where India often followed other nations in environmental initiatives, the country is now at the forefront, actively implementing stricter environmental norms through Extended Producer Responsibilities (EPRs). These norms target plastic waste, tire recycling, and lead-acid batteries, which are among the most polluting elements. A significant advantage for India in leading this effort is its extensive informal collection network. Ragpickers in India earn wages by collecting plastic waste, a process that is cost-effective and challenging to replicate in developed countries due to their higher sourcing and recycling costs.

Did you know?

India is one of the pioneering countries to implement recycling regulations, whereas even countries like the USA have only introduced such norms in a few states. In Europe, these regulations will apply from 2025 onwards.

Ever wondered why developing countries like the USA and those in Europe have not implemented plastic waste recycling regulations?

Unlike India, where nearly 40-50% of plastic waste is collected through unorganized channels, these developing countries lack an informal collection mechanism, preventing them from effectively implementing such regulations.

Exhibit 11: Promoter Holding likely to get back to >40% after conversion of warrants

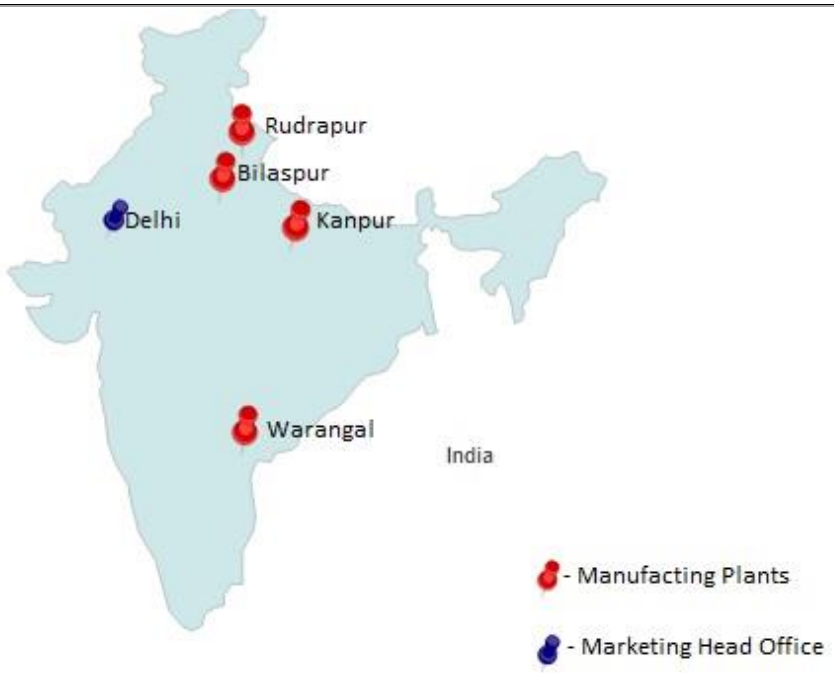
Promoter Holding Projection

Year	FY21	FY22	FY23	FY24	FY25e	FY26e
No.of Shares with promoter & promoter group	9.2	9.2	9.2	9.2	9.6*	10.7*
Total No.of O/s Shares	21.8	21.8	21.8	25.3	25.3	25.3
Promoter Holding	42.1%	42.3%	42.3%	36.4%	37.9%	42.2%

**Conversion of warrants & assumed balance warrants are fully converted*

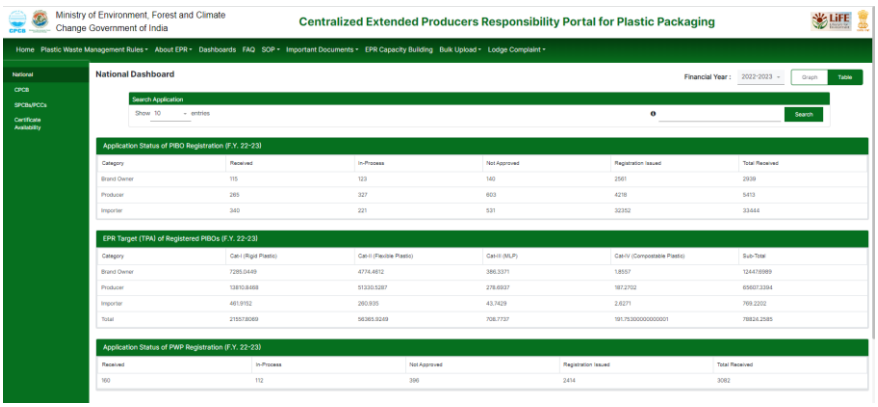
Source: Company, Dalal & Broacha Research

Exhibit 12: Manufacturing Plants of GEL



Source: Company

Exhibit 13: Platform by CPCB to monitor key data



Source: Company, Dalal & Broacha Research ; Reference Link : https://eprplastic.cpcb.gov.in/#/plastic/home

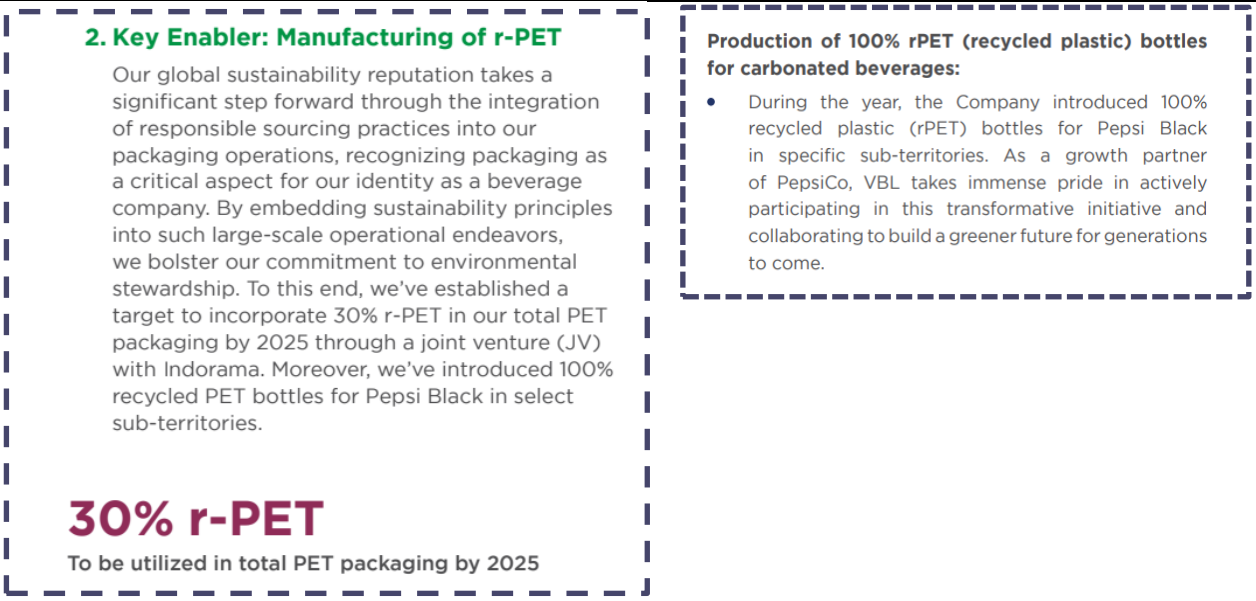
The CPCB (Central Pollution Control Board) has introduced a centralized platform where producers must upload various details, such as the amount of PET resin consumed. On the other hand, recyclers are required to register and provide details on the quantities collected and recycled. Issuance and transfer of recycling certificates will all be monitored through platform

Exhibit 14: GEL Peers & their capacity

No.	Companies	Listed/ Unlisted	Location	Period	Latest capacity (TPA)	rPET capacity (TPA)	Website Link
1	Ganesha Ecosphere (Raipur, Rudrapur, Bilaspur)	Listed	Uttar Pradesh,Telangana	FY24	1,68,000	42,000	
2	BLS Ecotech	Unlisted	New Delhi	N.A.	75,000	N.A.	https://www.blsecotech.com/
3	JB Ecotex	Unlisted	Surat, Gujarat	FY23	72,000	24,000	https://www.jbecotex.com/
4	Pashupati Fibres	Unlisted	Kashipur, Uttrakhand	Latest info	68,400	33,400	
5	Sulochana	Unlisted	Tamil Nadu	N.A.	48,000	N.A.	
6	Mahalaxmi Spintex Pvt Ltd	Unlisted	Solan, (HP)	N.A.	42,400	N.A.	
7	Shiva Texfabs Ltd (Now getting merged with Rudra Ecovation ; Previously Himachal Fibres)	Unlisted	Ludhiana, Punjab, Kalaemb HP	Latest info	36,500	N.A.	http://www.shivagroup.info/
8	Pashupati Polytex	Unlisted	Kashipur, Uttrakhand	Latest info	28,800	24,200	
9	Dharmesh Textiles Ltd.	Unlisted	Bhiwani, Haryana	N.A.	24,000	N.A.	
10	RPG Industrial Products Pvt. Ltd.	Unlisted	Meerut (U.P)	N.A.	24,000	N.A.	
11	Nirmal Fibres,	Unlisted	Moradabad (UP)	N.A.	18,000	N.A.	
12	Unitech Fibres	Unlisted	Tarapur (MH)	N.A.	18,000	N.A.	
13	Vishal Poly Fibers Pvt. Ltd.	Unlisted	Outskirts of Mumbai	Latest info	14,400	N.A.	https://vishalpolyfibres.com/
14	K. K. Fiber	Unlisted	Kaleamb, HP	N.A.	14,000	N.A.	www.kkfibers.in/about.html
15	Eminent Dealers Pvt. Ltd.	Unlisted	Bhilwara, Rajasthan	N.A.	9,000	N.A.	
16	Suncity Synthetics Ltd.	Listed	Jodhpur	N.A.	7,500	N.A.	
17	Shree Renga Polymers	Unlisted	Karur Tamil Nadu	N.A.	7,300	N.A.	www.shreerengapolymers.com
18	Komal Fibers,	Unlisted	Saregaon, Gujarat	N.A.	7,200	N.A.	
19	RSWM Ltd (LNJ Bhilwara Group)	Listed	Rajasthan	N.A.	4,800	N.A.	rswm.in
20	Capitol Fibres Pvt. Ltd.	Unlisted	Nashik	N.A.	3,000	N.A.	
21	Srichakra Polyplast (New expected rPET capacity added)	Unlisted	Hyderabad,Telangana	N.A.	N.A.	40,000	https://srichakra.in/
22	Alliance Fibres Pvt Ltd	Unlisted	Surat, Gujarat	N.A.	N.A.	36,000	
23	Bhavesh Polymer	Unlisted	Nashik	N.A.	N.A.	7,200	
24	Agarwal Polyfill Pvt Ltd	Unlisted	Kolkata	N.A.	N.A.	N.A.	
25	Allied Fibre	Unlisted	Kashiput, Uttrakhand	N.A.	N.A.	N.A.	
26	Amicotex	Unlisted	Solan, HP	N.A.	N.A.	N.A.	
27	Aqua Fiber Industries	Unlisted	Mohali, Punjab	N.A.	N.A.	N.A.	
28	Badri Eco Fiber Private Limited, Bhopal	Unlisted		N.A.	N.A.	N.A.	
29	Himalaya Fibres Ltd	Unlisted	Solan (HP)	N.A.	N.A.	N.A.	
30	Indian Organic Chemicals Ltd.	Unlisted	Chennai	N.A.	N.A.	N.A.	http://www.jamlfibres.com/Home.html
31	Jaiambe Manufacturers	Unlisted	Bhayandar, MH	N.A.	N.A.	N.A.	
32	NextGen Fibres PVt. Ltd.	Unlisted	Silvassa	N.A.	N.A.	N.A.	www.nextgenfibres.com/services.php
33	Obeettee, Pantnagar	Unlisted	Uttrakhand	N.A.	N.A.	N.A.	https://www.nirmalfibers.com/aboutus.html
34	Pacific Harish Ind Ltd	Unlisted	Nashik, MH	N.A.	N.A.	N.A.	
35	Polyole Fibre Ltd.	Unlisted	Daman	N.A.	N.A.	N.A.	
36	Reliance Industries Ltd.	Listed	UP, Punjab,MH	N.A.	N.A.	N.A.	
37	Renaissance (Formerly Divine)	Unlisted	Kutch, Gujarat	N.A.	N.A.	N.A.	
38	Rishisraj Filamnent Ltd	Unlisted	Kalapur (MH)	N.A.	N.A.	N.A.	
39	Rizwan Export House	Unlisted	N.A.	N.A.	N.A.	N.A.	
40	Saroj Microchem	Unlisted	Mumbai	N.A.	N.A.	N.A.	
41	Shakti Polymer	Unlisted	Mumbai	N.A.	N.A.	N.A.	
42	Shree Salasar Polyflex	Unlisted	Jaipur	N.A.	N.A.	N.A.	
43	Tejaria Polytex	Unlisted	Jaipur	N.A.	N.A.	N.A.	
44	Indorama Ventures (JV with Varun Beverages)	Unlisted	Bangkok	N.A.	N.A.	N.A.	https://www.indoramaventures.com/en/home

Source: Industry,Company, Dalal & Broacha Research

Exhibit 15: Key remarks from Varun Beverages, which has entered into a joint venture with Indorama (a major competitor of GEL) for recycled PET



Source: Varun Beverages Annual Report, Dalal & Broacha Research

When examining PET resin consumption in India, approximately 46% is used for carbonated drinks and bottled water, with two-three major brands, Coke,Bisleri and Pepsi, dominating this market. Their bottlers require a consistent supply of plastic bottles.

Varun Beverages Limited (VBL): VBL is one of the largest franchisees and bottlers of PepsiCo's carbonated soft drinks (CSDs) and non-carbonated beverages (NCBs) outside the United States, accounting for over 65% of PepsiCo's sales volumes in India. Although VBL may form joint ventures to tackle this issue, the true competitive advantage lies in the procurement capability to ensure a steady supply, which only few companies like GEL and a few other notable players of their size possess.

Indorama Ventures (IV): IV, the world's largest producer of PET, ventured into the recycling business in 2011. It now boasts the largest recycling capacity in Europe, with facilities in the Netherlands, France, Ireland, the US, Mexico, and Thailand.

Bisleri: Bisleri is the largest packaged water brand in India, with over 125 plants and 3000+ distributors across the country, offering a wide range of bottle sizes from 250 ml to 20 liters

Did you know?

Product approval for rPET is granted by brands such as Coca-Cola, and once approved, it applies not just to Coca-Cola India but to any Coca-Cola bottler globally. This opens up a wide array of opportunities. Currently, GEL received an order from Moon Beverages (a Coca-Cola bottler) in August 2023 for the supply of rPET chips.

Exhibit 16: GEL Annual Report Analysis (Bird's eye view of latest Annual reports)

	AR20-21	AR21-22	AR22-23
Year of Incorporation - "1987"	35th year since incorporation	36th year since incorporation	37th year since incorporation
Registered Office	Kanpur	Kanpur	Kanpur
Total bottles recycled (bn)	6+	6+	6.3
Domestic vs Exports Mix (%)			
India	92%	87%	89%
Outside India	8%	13%	11%
Market Cap (₹ bn)	13	16	18
Working Capital Days		82	73
Net Worth (₹ bn)	5	6	7
RoCE (%)		15%	15%
Subsidiaries			
Ganesha Ecopet (Dt of incorporation)		19-11-2019	
Ganesha Ecotech (Dt of incorporation)		17-11-2020	
Ganesha Overseas (Acquired)		15-07-2021	
Product Portfolio			
rPET Fibre			
Solid fibre and dope dyed fibre		Textile and non woven fabrics	Textile and non woven fabrics
Hollow an conjugated		Home furnishing	Home furnishing
Fire retardant		Technical Textile	Technical Textile
Short Cut Fibre		Textile, Paper and construction	Textile, Paper and construction
Micro fibre		Textile	Textile
Trilobal fibre		Textile	Textile
Polyester staple Fibre		-	Spinning
Dyed texturised yarn			
Melange		Knitting	Knitting
Single Yarn		Clothing,Kitting,hosiery	Clothing,Kitting,hosiery
Double Yarn		Kitting,hosiery	Kitting,hosiery
Filament Yarn		-	Spinning
New Products Added			rPET bottle grade chips
Employees + Workers			
Permenant	2,793	2,587	2,593
Contractual	658	1,027	174
Total	**3,451**	**3,614**	**2,767**
Board of Directors			
Shyam Sunder Sharma	Chairman	Chairman	Chairman
Sharad Sharma	Managing Director & CEO	Managing Director & CEO	Managing Director & CEO
Vishnu Khandelwal	Executive Vice Chairman	Executive Vice Chairman	Executive Vice Chairman
Rajesh Sharma	Joint Managing Director	Joint Managing Director	Joint Managing Director
Surendra Kabra	Independent Director	Independent Director	Independent Director
Vishwa Chandak	Independent Director	Independent Director	Independent Director
Pradeep Goenka	Independent Director	Independent Director	Independent Director
Abhilash Lal	Independent Director	Independent Director	Independent Director
Shobha Chaturvedi	Independent Director	Independent Director	Independent Director
Gopal Agarwal	CFO	CFO	CFO
BP Sultania			Joint President
RK Khandelwal			Vice President
Sandeep Khandelwal		Vice President	Vice President
Prashant Khandelwal			Vice President
Bharat Sajnani	Company Secretary	Company Secretary	Company Secretary
NK Sharma			Vice President (Commercial)
Rajesh Gupta			Vice President (Makerting)
KK Jain			Vice P (Administration & Legal)
Anoop Gupta	Independent Director		
Seema Sharma	Independent Director		
Gopal Shekhavat			
Sanjiv Dua			Vice President
KMP Remuneration (₹ Lakhs)			
Shyam Sunder Sharmma	28	28	28
Sharad Sharma	93	135	249
Vishnu Khandelwal	93	135	249
Rajesh Sharma	93	135	249
Surendra Kabra	5	6	6
Vishwa Chandak	4	6	2
Pradeep Goenka	5	6	7
Anoop Gupta	3	-	-
Gopal Singh Shekhavat	17	-	-
Seema Sharma	3	-	-
Abhilash Lal	5	5	7
Shobha Chaturvedi	5	6	7
Gopal Agarwal	21	28	31
Bharat Sajnani	10	11	13
Statutory Auditor	Narendra Singhania & Co	Narendra Singhania & Co	Narendra Singhania & Co
Cost Auditor Fees (₹)			
RM Bansal & Co	55,000	60,000	60,000
Rakesh Misra & Co	55,000	60,000	60,000
Internal Auditor	Ashok & Ajai	Ashok & Ajai	Ashok & Ajai

Source : Company,Dalal & Broacha Research

Exhibit 17: Formalising recycling Industry across the globe : Start of a new era

Top 10 Polluting industries in the world					
Rank	**Industry**	**Air Pollution**	**Water Pollution**	**Greenhouse Gas Emissions**	**Waste Generation**
1	Fuel & Energy	High	Low	High	Medium
2	Agriculture & Food Production	High	High	High	High
3	**Fashion Industry (Fast Fashion)**	**Medium**	**High**	**High**	**High**
4	Food Retail	Low	Medium	Medium	High
5	**Plastics Manufacturing**	**High**	**Medium**	**High**	**High**
6	Transport Industry	High	Medium	High	Medium
7	Construction Industry	High	Medium	High	High
8	**Waste Management & Disposal**	**Medium**	**High**	**Medium**	**High**
9	Chemical Manufacturing	High	High	High	Medium
10	Technology	Low	Low	High	High

The Paris Agreement is a landmark international accord adopted in 2015 to address climate change and its negative impacts. The key points about the agreement are:

- It aims to substantially reduce global greenhouse gas emissions to limit the global temperature increase in this century to 2°C above preindustrial levels, while pursuing efforts to limit the increase to 1.5°C.
- The agreement includes commitments from all major emitting countries to cut their climate pollution and strengthen those commitments over time.
- It provides a pathway for developed nations to assist developing nations in their climate mitigation and adaptation efforts.
- The agreement creates a framework for the transparent monitoring, reporting, and ratcheting up of countries' individual and collective climate goals.
- As of 2022, 197 countries have endorsed the Paris Agreement, with 190 having formally approved it.
- The agreement talks about 20/20/20 targets - 20% reduction in carbon dioxide emissions, 20% increase in renewable energy market share, and 20% increase in energy efficiency.
- Countries have to submit Nationally Determined Contributions (NDCs) every 5 years to report their emissions reduction targets, though these contributions are not legally binding.

So, in summary, the **Paris Agreement is the most significant global climate accord to date**, requiring all countries to set emissions-reduction targets to combat climate change caused by greenhouse gas pollution. It marks a historic turning point in global climate action.

Source : Dalal & Broacha Research,Oizom ; Ref Link : https://oizom.com/most-polluting-industries/

Did you know?

S&P Global has introduced India's inaugural price assessment for r-PET. This significant step is poised to enhance pricing transparency, particularly in response to the increasing demand for recycled plastics amid global energy transition initiatives. The introduction of the rPET price assessment will address the surging demand from market participants in Asia's rapidly evolving export market, providing them with reliable and transparent pricing information for this burgeoning sector.

Exhibit 18: GEL uses starlinger machines to convert plastic waste into rPET (The Starlinger recoSTAR PET 165 iV+ PET bottle-to-bottle recycling line is best in class machine)

Source: Company, Dalal & Broacha Research

Starlinger viscotec is a division of Starlinger & Co. GmbH, the world market leader in the field of machinery and complete lines for woven plastic packaging production. Starlinger viscotec produces machines and plants for the refinement of recycled PET for food contact and extrusion lines for PET sheet made from up to 100 % rPET in Austria, exporting these to customers worldwide. Starlinger PET recycling systems produce food-safe rPET and are approved for use in food applications by many brand owners as well as various national and international authorities. The end products of the systems are food-grade pellets and food-grade sheet that allow companies to manufacture packaging made from 100% recycled PET (polyethylene terephthalate).

Packaging producers and recyclers manufacture food-grade recycled PET of highest quality with recycling solutions by Starlinger viscotec and close the recycling loop. From bottle to bottle. From tray to tray. viscotec rPET-sheet extrusion lines process up to 100 % recycled PET for thermoformed packaging solutions safe for direct food contact. The rPET100 material is heat resistant and fully recyclable and therefore THE circular choice for thermoformed packaging.

Here are the top PET recycling machinery manufacturers globally:

EREMA (Austria)

EREMA is a leading manufacturer of PET recycling systems, known for their high-performance recycling machines like the VACUREMA and VACUNITE lines. They offer solutions for PET bottle-to-bottle recycling, enabling up to 100% rPET in new bottles using their SafeFlake technology.

AMUT (Italy)

AMUT is a trusted name in extrusion technology for PET recycling. They provide complete PET bottle washing lines and extrusion systems for producing recycled PET pellets.

STARLINGER (Austria)

Starlinger's PET recycling lines are renowned for their efficiency in producing high-quality recycled PET pellets from post-consumer bottles. Their machines are used worldwide for PET bottle-to-bottle recycling.

GENIUS MACHINERY (Taiwan)

Genius Machinery has over 40 years of experience in manufacturing plastic recycling equipment. They offer a wide range of machines for PET recycling including pelletizers, washing plants, crushers, and shredders.

NICETY (China)

NICETY is a leading Chinese manufacturer of PET recycling machinery. They produce washing lines, extrusion lines, crushers, and auxiliary equipment for PET bottle recycling. NICETY serves customers in over 180 countries worldwide.

Did you know?

Only a few notable European players have rPET recycling capabilities, with Starlinger being the preferred choice for Indian companies. The lead time for machinery supply from Starlinger is typically 18-24 months.

Exhibit 19: Recycling is evolving from "Good to have" to "Must have"

In India...

The 'face' of sustainable fashion
Prime Minister Shri Narendra Modi wore a light blue sadri jacket made of recycled plastic bottles while attending the Rajya Sabha session in February 2023.

Unbottled
The Unbottled initiative (by Indian Oil Corporation) is the world's largest initiative to reuse and recycle 100 Million PET bottles a year to make eco-friendly uniforms for its staff (each uniform produced from the recycling of around 28 PET bottles).

Recycled plastic t-shirts
As a part of the Swachh Bharat Mission, the Pune Municipal Corporation declared that it will recycle plastic to make eco-friendly t-shirts.

Adidas
Adidas collaborated with Indian cricketer Rohit Sharma to launch a limited sustainable apparel collection made from plastic waste.

From plastic to fantastic
Alcis Sports (Paragon Apparels) offers an extensive collection of sportswear and athletic gear with the tagline 'From plastic to fantastic'. Nearly half of Alcis's apparel range uses recycled PET bottles, showcasing its commitment to sustainable practices.

Sustainable sneakers
Nothing New, an eco-friendly sneaker brand, recycles 5.6 plastic PET bottles for each pair of shoes, conserving 160 gallons of water compared to conventional cotton canvas sneakers. Each component of the brand's sneakers, including the laces and labels, is crafted from recycled plastic materials.

Across the world...

Adidas
The brand is most likely to fulfil its target of using only recycled polyester by the end of 2023, a year ahead of its target. Currently, recycled polyester contributes 96% to the Company's overall polyester mix.

Nike
Each pair of Nike Flyknit is produced from six recycled plastic bottles. Moreover, the volume of material waste used in the shoe cut and sew process is 60% less than other products.

H&M
H&M's 'Conscious Exclusive' collection includes items designed by Stella McCartney for Adidas' Primeknit collection, utilising 100% recyclable PET plastic bottles collected from beaches. H&M formed a partnership with the Ellen MacArthur Foundation, an organisation committed to facilitate the shift towards a circular economy.

Jockey
Jockey's Eco Comfort clothing collection uses recycled polyethylene terephthalate (PET) bottles, collected through municipal recycling programmes.

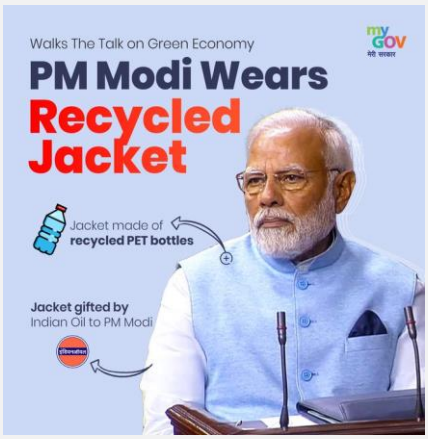
Zara
Inditex, the parent owner of Zara, plans to reduce emissions in its value chain by 50% and ensure that 40% fibres used by Inditex brands are sourced from recycling processes by 2030.

Coca Cola
Coca Cola rolled out its beverages in 100% recycled PET in a number of markets such as North America, Vietnam, Indonesia and India, among others.

Source: Economic Times, NDTV, Times of India, mompresso.com, manufacturingdigital.com, nori.com, Fashion Network, Evrnu

Did you know?

Prime Minister Narendra Modi has been wearing recycled jackets on several occasions to promote sustainability and raise awareness about the importance of environmental conservation. These jackets are made from recycled materials such as plastic bottles and discarded clothes, which are transformed into fashionable garments through a process involving PET bottle recycling and upcycling.



IOCL launched its brand – "Unbottled" through which it has committed to recycle 100 mn bottles every year.Being the largest initiative globally, IOCL plans to supply the recycled clothes to IOCL workers, non-combat uniforms for Armed Forces and even retail sales The initiative was launched by PM Modi and has already gathered positive media response

Exhibit 20: Brand awareness for using recycled PET as part of their sustainability goals

A photo taken at the "Being Human" brand outlet in Phoenix Palladium Mall, Mumbai.Similarly, The Bisleri bottle label features a 100% recyclable mark, raising awareness among the public to dispose of it sustainably, ensuring it can be collected and reused. H&M tag indicating recycled polyester content

Did you know?

Being Human Clothing, is a sustainable fashion brand that uses recycled PET (PolyEthylene Terephthalate) bottles to create high-quality garments. The brand is part of the Being Human - The Salman Khan Foundation.

Have you ever wondered if recycled fabric made from RPSF and RPSY can be further recycled?

Recycling rPET fiber and yarn clothing is possible but challenging. The final fabric is often blended with other materials and chemicals, making the recycling process more difficult.

Exhibit 21: Board Composition

Board of Directors		
Name	**Designation**	**Brief Profile**
Shri Shyam Sunder Sharmma	Chairman	Shri Shyam Sunder Sharmma, aged 80, a post-graduate in commerce and a first-generation entrepreneur with over 59 years of management experience, including 25 years with various Birla Group Companies, has been associated with the Company as Chairman since 1989, appointed as Managing Director in 1990, and is currently the Non-Executive Chairman.
Shri Vishnu Dutt Khandelwal	Executive Vice-Chairman	Shri Vishnu Dutt Khandelwal, aged 74, a post-graduate in commerce with over 50 years of experience in textile yarn trading, specializing in marketing and financial management, has been with the Company since its inception and was appointed Executive Vice-Chairman in 2008, responsible for overseeing marketing and business development.
Shri Sharad Sharma	Managing Director & CEO	Shri Sharad Sharma, aged 57, a commerce graduate with over 36 years of experience in marketing and distribution, has been with the Company since its inception, appointed to the Board in 1992 as a Director, became Joint Managing Director in 2004, and was elevated to Managing Director & Chief Executive Officer on September 18, 2018, responsible for overall management and operations.
Shri Rajesh Sharma	Joint Managing Director	Shri Rajesh Sharma, aged 57, a commerce graduate with over 33 years of experience in plant administration and operations, has been with the Company since its inception, appointed as an Executive Director in 2008, and has been Joint Managing Director since August 1, 2019, responsible for managing and operating the Company's Rudrapur and Bilaspur units.
Shri Abhilash Lal	Non-Executive Independent Director	Shri Abhilash Lal, aged 58 years, is a mechanical engineer and a postgraduate in management from Indian Institute of Management (IIM), Bangalore. He has rich experience of more than 32 years in all aspects of financial services including banking, consulting, insurance, investments, advisory etc. and had worked with HSBC for more than 11 years. He was appointed to the Board of the Company as a Non-Executive Independent Director w.e.f. September 29, 2014.
Dr. Shobha Chaturvedi	Non-Executive Independent Director	Dr. Shobha Chaturvedi, aged 67 years, is Ph.D. in Pollution Abatement from H.B.T.I., Kanpur and in 2016 retired from the post of Regional Officer, UP Pollution Control Board after having put in more than 28 years of service. She also holds a Master Degree in Chemistry. She was appointed to the Board as a Non-Executive Independent Director w.e.f. September 5, 2019.
Shri Pradeep Kumar Goenka	Non-Executive Independent Director	Shri Pradeep Kumar Goenka, aged 69, a member of the Institute of Chartered Accountants of India with over 43 years of experience in finance and consultancy services, a practicing Chartered Accountant, and having served on the Board of several companies across various industries, was appointed to the Board of the Company in 2006.
Shri Narayanan Subramania	Non-Executive Independent Director	Shri Narayanan Subramaniam, a post-graduate from IIMA, FCA, Grad CMA, and FCS, with over 30 years of experience as a finance leader and board member across various industries, specializing in asset management, risk management, and corporate governance, served as a Non-Executive Independent Director of the Company from 2014 to 2019 and was appointed as an Additional (Non-Executive Independent) Director on August 24, 2023.

Source: Company, Dalal & Broacha Research

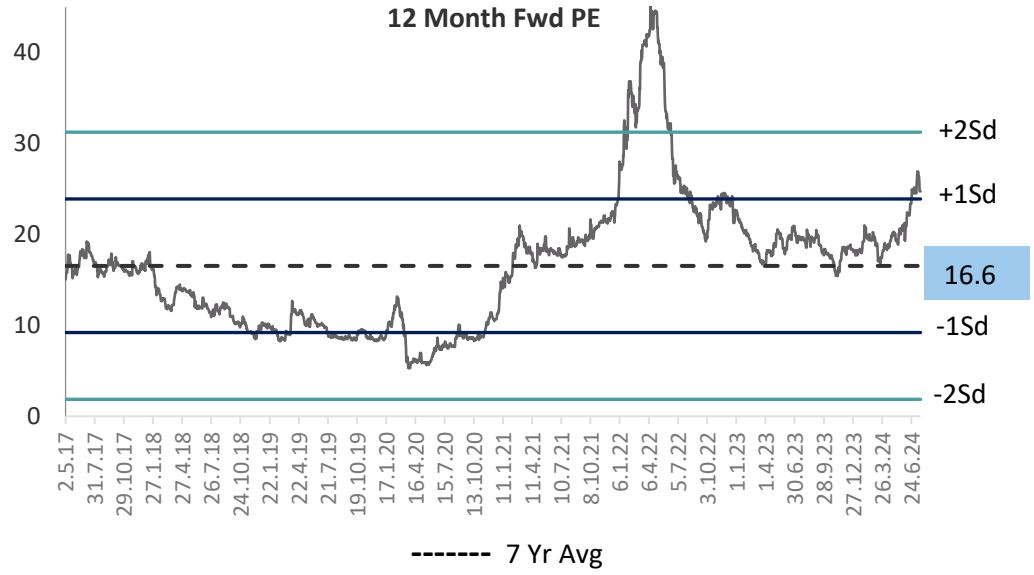
Exhibit 22: Peer comparison

Company Name	CMP (₹)	Mcap (₹ Bn)	Revenue (₹ Mn)					EBITDA (₹ Mn)					PAT (₹ Mn)					Adj EPS					PE					Revenue CAGR (FY24-27e)	EBITDA CAGR (FY24-27e)	EPS CAGR (FY24-27e)
			FY23	FY24	FY25e	FY26e	FY27e	FY23	FY24	FY25e	FY26e	FY27e	FY23	FY24	FY25e	FY26e	FY27e	FY23	FY24	FY25e	FY26e	FY27e	FY23	FY24	FY25e	FY26e	FY27e			
Antony Waste	815	22	8,521	8,729	9,659	10,565	10,685	1,470	1,783	2,256	2,467	2,495	681	862	863	959	961	24.1	30.4	30.4	33.8	33.9	33.8	26.8	26.8	24.1	24.0	6%	14%	9%
Gravita India	1,667	118	28,006	31,608	41,139	50,936	60,842	1,976	2,836	4,238	5,324	6,273	2,011	2,392	3,020	3,884	4,247	29.7	34.6	43.3	56.0	61.5	56.1	48.1	38.5	29.8	27.1	21%	33%	20%
GRP Ltd	14,900	20	4,510	4,614	N.A.	N.A.	N.A.	209	466	N.A.	N.A.	N.A.	139	226	N.A.	N.A.	N.A.	104.6	169.8	N.A.	N.A.	N.A.	142.4	87.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Nile Ltd	2,090	6	8,063	8,376	N.A.	N.A.	N.A.	358	461	N.A.	N.A.	N.A.	226	312	N.A.	N.A.	N.A.	75.2	103.8	N.A.	N.A.	N.A.	27.8	20.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Pondy Oxides	1,213	13	14,762	15,406	N.A.	N.A.	N.A.	770	703	N.A.	N.A.	N.A.	756	319	N.A.	N.A.	N.A.	65.1	27.4	N.A.	N.A.	N.A.	18.6	44.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Rudra Ecovation	69	7	268	196	N.A.	N.A.	N.A.	18	10	N.A.	N.A.	N.A.	29	-6	N.A.	N.A.	N.A.	0.3	-0.1	N.A.	N.A.	N.A.	201.6	-979.3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Tinna Rubber	1,810	31	2,954	3,630	N.A.	N.A.	N.A.	368	626	N.A.	N.A.	N.A.	218	403	N.A.	N.A.	N.A.	12.7	23.5	N.A.	N.A.	N.A.	142.3	77.0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Ganesha Eco*	**1,582**	**37**	**11,796**	**11,229**	**17,193**	**18,746**	**23,620**	**1,277**	**1,379**	**2,545**	**2,811**	**3,686**	**699**	**406**	**1,395**	**1,479**	**1,983**	**32.0**	**16.0**	**53.2**	**54.2**	**72.6**	**49.4**	**98.9**	**29.8**	**29.2**	**21.8**	**19%**	**30%**	**23%**
V/s BB Consesus	1,582	37	11,796	11,229	16,916	19,393	N.A.	1,277	1,379	2,638	3,111	N.A.	695	406	1,388	1,641	N.A.	31.8	16.0	51.8	61.2	N.A.	49.7	98.9	30.5	25.9	N.A.	N.A.	N.A.	N.A.
Difference					***277***	***-647***	***N.A.***			***-93***	***-300***	***N.A.***			***7***	***-162***	***N.A.***	***0.2***	***-0.0***	***1.4***	***-7.0***	***N.A.***	***-0***	***0***	***-1***	***3***	***N.A.***	***N.A.***	***N.A.***	***N.A.***

** DnB Est ; Rest companiesa are BB Estimates*

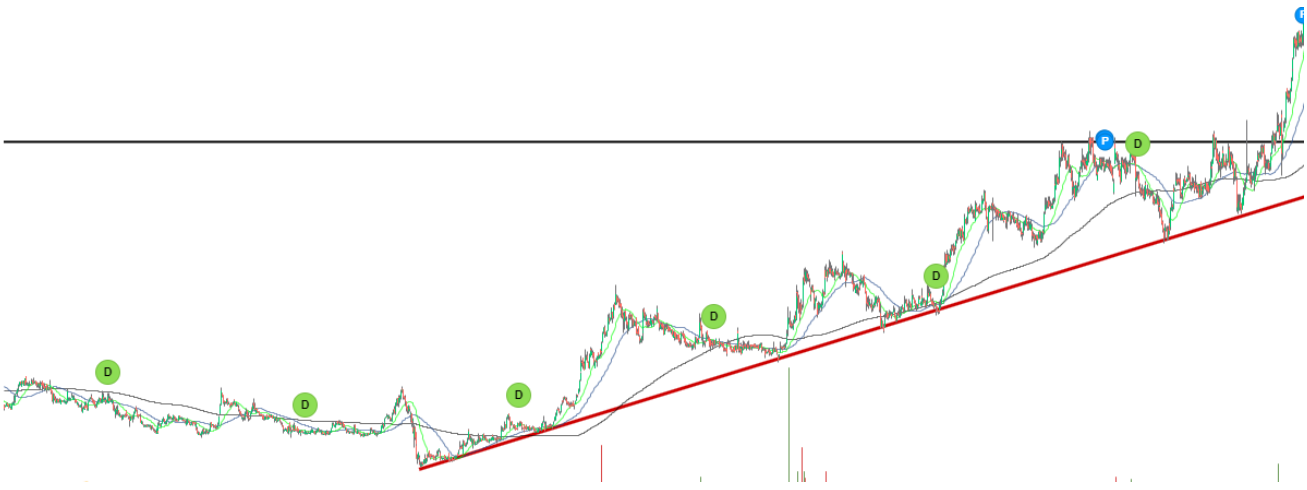
Source: Company, Dalal & Broacha Research

Exhibit 23: 12 Month Forward Rolling P/E



Source: Dalal & Broacha Research

Exhibit 24: Technical Chart : Indicating strong uptrend



Source : Tradingview

Stock continues to trade above 20,50,200 DMA levels & long term trendline also indicating strong uptrend

Valuation and Outlook

Ganesha Ecosphere Ltd (GEL) is India's largest PET bottle recycler, shifting from textile recycling to producing rPET granules for the FMCG industry, in response to new EPR norms requiring mandatory recycled plastic content in packaging by FY26. GEL recycles over 6 billion PET bottles annually, capturing 16% of India's PET waste. Aiming for a 10-12% share of the rPET market by 2030, GEL looks to expand its capacity from 42,000 tonnes to 200,000-300,000 tonnes, aiming to capture 10-12%/30% market share of the rPET/rPET chips+flakes market. Recent expansion at Warangal plant is expected to drive revenue growth to Rs. 6-7 billion (+50%) and improve EBITDA margins from 11% to 15%. GEL's robust dealer network, spanning nearly 300 dealers, provides a strong procurement advantage. The company is also poised to benefit from the shift towards organized recycling, as stricter EPR norms formalize the market. GEL's long-standing industry presence and strategic expansions position it to lead India's plastic waste management revolution. With a robust succession plan and ongoing discussions with major bottling companies, GEL is set to lead the way in sustainable plastic packaging solutions. The company's move to high-entry barrier rPET products from low-entry barrier textiles marks a significant strategic shift.

The recent issuance of warrants to GEL promoters at Rs.1035 per share in January 2024, amounting to Rs.1.5 billion, and the QIB issue of Rs.3.5 billion at Rs.995 per share in February 2024, demonstrate strong confidence in the company's growth trajectory.

We are initiating coverage on Ganesha Ecosphere Ltd with a **BUY** rating and recommend that investors consider adding the stock during any corrections in the midcap and smallcap sectors. This stock is expected to be resilient to recession and inflation, distinguishing it from broader economic trends in the country.

We expect robust revenue/EBITDA/PAT/EPS CAGR of 19%/30%/30%/23% over FY23-27e (with FY23 being a normalized year for CAGR purpose) & value the company at 25x FY27e EPS of ~Rs.73 arriving at target price of Rs.1,815 (~1x PEG implying a PE multiple of 25x. This is justified by evolving regulatory dynamics, which are expected to enhance earnings longevity, strengthen the raw material procurement moat, and leverage the high-entry barrier nature of the business. Additionally, the shift from the cyclical textile industry to an FMCG clientele, along with increased customer loyalty, all contribute to potential high earnings visibility.

Risks

- Delays or poor enforcement of EPR regulations could lead to the continued unwarranted use of virgin plastics.
- The traditional textile business of RPSF is experiencing sectoral headwinds, adversely affecting the overall performance of the company.
- An increasingly competitive landscape over time is resulting in poor margins.
- A lack of long-term contracts leads to underutilized capacity, negatively impacting profitability.
- Inadequate raw material supply is causing disruptions in business operations.
- Price fluctuations of key raw materials and end products, due to their commoditized nature, are affecting stability.

Ganesha Ecosphere Ltd & PET related FAQs

▶What is PET Waste?

PET waste refers to waste materials made of polyethylene terephthalate (PET), which is a type of plastic commonly used in the manufacturing of bottles, containers, packaging, and textiles. PET is known for its durability, transparency, and lightweight properties, making it a popular choice for various consumer products.

PET waste typically includes items such as:

1. Plastic bottles: Water bottles, soda bottles, juice bottles, etc.
2. Food containers: Salad containers, condiment containers, etc.
3. Packaging materials: Clamshell packaging, blister packs, trays, etc.
4. Textile products: Polyester clothing, polyester carpets, etc.

PET waste is a significant component of municipal solid waste streams globally. Due to its non-biodegradable nature, improper disposal of PET waste can lead to environmental pollution and pose hazards to wildlife. However, PET is also highly recyclable, and recycling processes can convert PET waste into various recycled products such as polyester fibers, textiles, and packaging materials, reducing the environmental impact associated with virgin plastic production.

▶ How much is the total plastic waste generated in India & how much of it is recycled?

India generates approximately ~20 Mn tonness of plastic waste annually & closer to ~40% of its PET is recycled.

▶ Who is eligible to register for EPR (Extended Producers Responsibility)

Under the current framework of EPR, PIBOs (Producer, importer and brandowners) are responsible for complying with the obligations. If a company identifies as a PIBO and has operations in India that involve the use of plastic packaging as part of its operation, regardless of its turnover or scale of operations, it falls under the obligation of EPR.

1.Register at EPR Portal

2.Submit their Action plan

3.Fulfill obligations for :-

a) Recycling
b) Use of Recycled content
c) Reuse
d) End of life disposal
e) Optional engagement in collection and recovery of the plastics
f) Submit annual returns
g) Provide proof of certificates (Plastic credits)
h) PIBOs can engage with PRO's or other agencies separately to fulfill their targets but reporting and responsibility to fulfill the obligations is completely of PIBO

▶ Where is PET used?

Polyethylene terephthalate (PET) is used in bottles and jars, trays and clamshells, bags and pouches, films and wraps, labels,caps and closures among others by virtue of them being cost effective, transparent, lightweight, nonreactive, thermally stable and more durable than PP, HDPE and PVC.

PET is widely used in sectors such as pharmaceutical and healthcare, personal care and cosmetics, food and beverage,homecare, automotive parts, electrical and electronics, chemicals and others based on the end-use industry.

▶ Where do plastics come from & how difficult it is to decompose them?

Plastics are derived from petrochemicals, primarily oil and natural gas, through polymerization and polycondensation processes. Decomposing plastics is challenging because they are resistant to natural degradation, often taking hundreds to thousands of years to break down completely in the environment.

▶ Is there a long-term agreement between GEL and its key customer, Moon Beverages, the bottler of Coca-Cola?

There are no long-term agreements in place, but typically, the product is approved by the brand, such as Coca-Cola, and pricing and quantity requirements are negotiated directly with Moon Beverages, the bottler, based on their needs. However, obtaining product approval is highly challenging, thereby creating indirect customer loyalty. For example, gaining approval from major players like Coca-Cola typically requires 12-14 months for both plant and product approval, establishing significant entry barriers. GEL typically receives short-term purchase commitments from its key customers, ensuring a guaranteed level of offtake.

▶ Is GEL considering forward integration by venturing into bottling for large brands?

No, currently GEL intends to focus solely on recycling and has no immediate plans to forward integrate into becoming a bottler for large brands.

▶ Can the end customer directly undertake PET recycling?

While setting up machinery is feasible for the end customer, the real competitive advantage lies in waste collection and processing. Managing the entire ecosystem is the true challenge and differentiator.

▶ Do the product realizations fluctuate or remain fairly stable?

Yes,the product realizations of GEL products are fluctuating in nature & have an element of cyclicality but GEL is trying to mitigate this risk by focusing on long term agreements which allow them to secure fixed conversion fees.

▶ Is it possible to stockpile used PET bottles in anticipation of surging demand due to EPR regulations?

No, it is not practically feasible. Most companies maintain a stockpile sufficient for one month.

▶ Can bottlers or brands set up their own plants to manufacture rPET chips?

Typically, brands avoid backward integration, but bottlers may venture into rPET chip manufacturing, potentially creating healthy competition for GEL.

▶ Does GEL generate recycling certificates?

Yes, GEL issues recycling certificates for ~1 lakh tonnes of plastic waste that it processes.

▶ Does traditional business of RPSF be converted to ?

It's not feasible to convert a traditional RPSF business to rPET production because the former can tolerate some contamination, while the rPET process is highly sophisticated and requires zero contamination.

▶ Are rPET chips eligible for export?

Yes, rPET chips can be exported.

▶ Does Coca-Cola have multiple bottlers in India?

Yes, Coca-Cola has 15-16 bottlers in India. Hindustan Coca-Cola is the largest bottler in India, being a wholly-owned subsidiary of the Coca-Cola parent company and controlling 40% of the total Coca-Cola requirement in the country. GEL received its first order from Moon Beverages, but other Coca-Cola bottlers also engage with GEL, as Coca-Cola's product and plant approvals for GEL are on a global basis and not specific to any individual bottler.

▶ What is the ground reality of EPR regulation? Are people really following it?

Only large players like Coca-Cola and Pepsi, who constitute the major market share of PET, have geared up for the regulation and started building supply chains. Smaller companies are expected to start complying after October-November, once the regulation date comes closer.

▶ Does Coca-Cola procure rPET chips from other players besides GEL?

Yes, Coca-Cola has started procuring rPET chips from other players, such as Shrichakra Polplast, in small quantities.

[Read more here : https://www.packaginginsights.com/news/coca-cola-india-launches-countrys-first-fully-recycled-pet-packaged-water-bottle.html).

▶ Can plastic be decomposed instead of recycling it?

Plastic can be decomposed, but it is a very slow and difficult process. Plastic can take anywhere from 20 to 500 years to decompose, depending on the type of plastic. This is because plastic is not a natural material - it is made from petroleum and has chemical bonds that are much harder for nature to break down compared to organic materials like wood or food waste.

▶ What is the difference between pre & post-consumer plastic waste?

Pre-Consumer Plastic Waste is Discarded Waste with a few printing errors or flaws or improperly packaged. As a result, this kind of waste has yet to be used up or reached a consumer. On the other hand, post-consumer waste develops at the end of the consumer lifecycle. The customer is looking for some way to get rid of the product after using it for the purpose they purchased.

Important websites for reference to track the company

Company website	http://www.ganeshaecosphere.com/
Centralized Extended Producers Responsibility Portal for Plastic Packaging	https://eprplastic.cpcb.gov.in/#/plastic/home
Plastic Waste Amendement Rules 2024	https://eprplastic.cpcb.gov.in/plastic/downloads/Plastic_Waste_Management_Amendment_Rules_2024.pdf
GEL Plant Video	https://www.youtube.com/watch?v=ZgeGos35VFY&t=25s
EPR Regulation related	https://www.youtube.com/watch?v=vMzvj85Srek https://www.youtube.com/watch?v=MjB72jnos1M
CNBC TV Management Interviews	https://www.youtube.com/watch?v=fIrA3GaOmIs
Good Reports on Plastic Industry related	https://www.teriin.org/sites/default/files/2021-03/Circular-Economy-Plastics-India-Roadmap_0.pdf
Key Peer websites	**JB Ecotex :** https://www.jbecotex.com/group-of-company **BLS Ecotech :** https://www.blsecotech.com/ **Pashupati Polytex :** https://pashupatigrp.com/pashupati-polytex#:~:text=This%20manufacturing%20facility%20has%20profound,finest%20quality%20from%20PET%20Recycling. **Shrichakra Polyplast :** https://srichakra.in/

Financials

P&L (Rs mn)	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e
Net Sales	7,511	10,214	11,796	11,229	17,193	18,746	23,620
Operating Expenses	-4,755	-6,572	-7,787	-6,909	-10,660	-11,529	-14,526
Employee Cost	-480	-579	-672	-750	-907	-1,053	-1,224
Other Expenses	-1,431	-1,924	-2,061	-2,191	-3,082	-3,354	-4,184
Operating Profit	**845**	**1,139**	**1,277**	**1,379**	**2,545**	**2,811**	**3,686**
Depreciation	-272	-284	-292	-487	-558	-620	-692
PBIT	573	855	985	892	1,986	2,191	2,994
Other income	94	69	134	146	110	110	110
Interest	-88	-98	-169	-449	-308	-428	-626
PBT	579	826	950	589	1,788	1,873	2,479
Profit before tax	579	826	950	589	1,788	1,873	2,479
Provision for tax	-145	-208	-251	-183	-393	-393	-496
Profit & Loss from	-	-	-	-	-	-	-
Reported PAT	435	619	699	406	1,395	1,479	1,983
MI	-	-	-	-	-	-	-
Owners PAT	435	619	699	406	1,395	1,479	1,983
Adjusted Profit	**435**	**619**	**699**	**406**	**1,395**	**1,479**	**1,983**

Balance Sheet (Rs mn)	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e
Equity capital	218	218	218	253	262	273	273
Reserves	4,951	5,518	6,161	10,268	12,583	13,841	15,526
Net worth	**5,170**	**5,736**	**6,379**	**10,521**	**12,845**	**14,114**	**15,799**
MI	-	-	-	-	-	-	-
Non Current Liabilites	614	2,762	3,524	4,160	3,163	6,167	6,171
Current Liabilites	1,689	2,449	3,324	1,564	2,306	2,993	4,554
TOTAL LIABILITIES	**7,473**	**10,947**	**13,228**	**16,245**	**18,315**	**23,274**	**26,524**
Non Current Assets	3,557	6,322	7,873	8,893	8,291	10,689	13,016
Fixed Assets	3,277	5,755	7,473	8,406	7,848	10,228	12,536
Right of Use Assets	12	12	12	12	12	12	12
Financial Assets	-	-	59	121	59	59	59
Deferred Tax Asset	-	-	-	6	6	6	6
Advances	223	509	298	0	0	0	0
Assets	44	46	31	348	365	383	402
Current Assets	**3,916**	**4,625**	**5,355**	**7,352**	**10,024**	**12,585**	**13,508**
Current investments	721	689	486	276	287	298	310
Inventories	1,725	1,965	2,802	3,014	5,181	5,649	7,118
Trade Receivables	1,056	1,162	1,148	1,380	2,355	2,568	3,236
Cash and Bank Balances	152	230	62	1,532	451	2,164	450
Advances	220	185	448	0	0	0	0
Other Financial Assets	-	-	-	24	24	24	24
Other Current Assets	42	395	409	1,127	1,725	1,881	2,370
TOTAL ASSETS	**7,473**	**10,947**	**13,228**	**16,245**	**18,315**	**23,274**	**26,524**

Cashflow (Rs mn)	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e
PBT	579	826	950	589	1,788	1,873	2,479
Depreciation	272	284	292	487	558	620	692
Net Chg in WC	-423	-231	-835	-433	-2,721	-585	-1,808
Taxes	-135	-235	-230	-210	-393	-393	-496
Others	-19	3	26	2	-181	319	274
CFO	**274**	**648**	**202**	**435**	**-949**	**1,832**	**1,141**
Capex	-593	-2,766	-2,049	-1,567	-	-3,000	-3,000
Net Investments made	63	168	101	210	-11	-11	-12
Others	35	53	285	-915	-	-	-
CFI	**-495**	**-2,545**	**-1,664**	**-2,272**	**-11**	**-3,011**	**-3,012**
Change in Share capital	-	-	-	35	9	11	-
Change in Debts	349	2,217	1,474	-899	-725	3,550	1,099
Div. & Div Tax	-117	-133	-179	-498	-517	-650	-923
Others	-	-9	-12	3,590	2,210	-18	-19
CFF	**232**	**2,075**	**1,283**	**2,228**	**977**	**2,892**	**157**
Total Cash Generated	**11**	**178**	**-178**	**392**	**17**	**1,713**	**-1,714**
Cash Opening Balance	**13**	**43**	**221**	**43**	**434**	**451**	**2,164**
Cash Closing Balance	**24**	**221**	**43**	**434**	**451**	**2,164**	**450**

Ratios	FY21	FY22	FY23	FY24	FY25e	FY26e	FY27e
OPM	11.2	11.2	10.8	12.3	14.8	15.0	15.6
NPM	5.7	6.0	5.9	3.6	8.1	7.8	8.4
Tax rate	-25.0	-25.1	-26.4	-31.1	-22.0	-21.0	-20.0
Growth Ratios (%)							
Net Sales	-15.5	36.0	15.5	-4.8	53.1	9.0	26.0
Operating Profit	-24.4	34.8	12.1	8.0	84.6	10.5	31.2
PBIT	-31.5	49.2	15.2	-9.5	122.7	10.3	36.7
PAT	-31.7	42.4	12.9	-41.9	243.8	6.1	34.0
Per Share (Rs.)							
Net Earnings (EPS)	19.91	28.35	32.01	16.01	53.17	54.15	72.59
Cash Earnings (CPS)	32.36	41.37	45.38	35.21	74.46	76.84	97.92
Dividend	8.00	3.60	2.00	2.18	7.98	8.12	10.89
Book Value	236.82	262.77	292.21	415.08	489.69	516.63	578.33
Free Cash Flow	-10.75	-98.11	-210.36	-122.56	-23.39	-45.20	-62.98
Valuation Ratios							
P/E(x)	80	56	50	99	30	29	22
P/B(x)	7	6	5	4	3	3	3
EV/EBIDTA(x)	41	33	30	30	17	17	14
Div. Yield(%)	0.50	0.23	0.13	0.14	0.50	0.51	0.69
FCF Yield(%)	-0.68	-6.19	-13.27	-7.73	-1.48	-2.85	-3.97
Return Ratios (%)							
ROE	9%	11%	12%	5%	12%	11%	13%
ROCE	11%	12%	11%	8%	14%	12%	14%
RoIC	9%	8%	8%	6%	11%	10%	11%

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Address: - 508, Maker Chambers V, 221 Nariman Point, Mumbai 400 021.
Tel: 91-22- 2282 2992, 2287 6173 | E-mail: equity.research@dalal-broacha.com