

**Corporate
Presentation**

**December
2023**



TIME TECHNOPLAST LTD.

Bringing Polymers To Life

BSE: 532856 | NSE: TIMETECHNO | ISIN: INE508G01029 | CIN: L27203DD1989PLC003240

Who We Are

LEADING THROUGH INNOVATION AND TECHNOLOGY

Leading Global Industrial packaging company

First to launch Type-IV Composite Cylinder for LPG and CNG (CNG cascade and on-board application) in India. **2nd Largest** Composite Cylinder manufacturer worldwide.

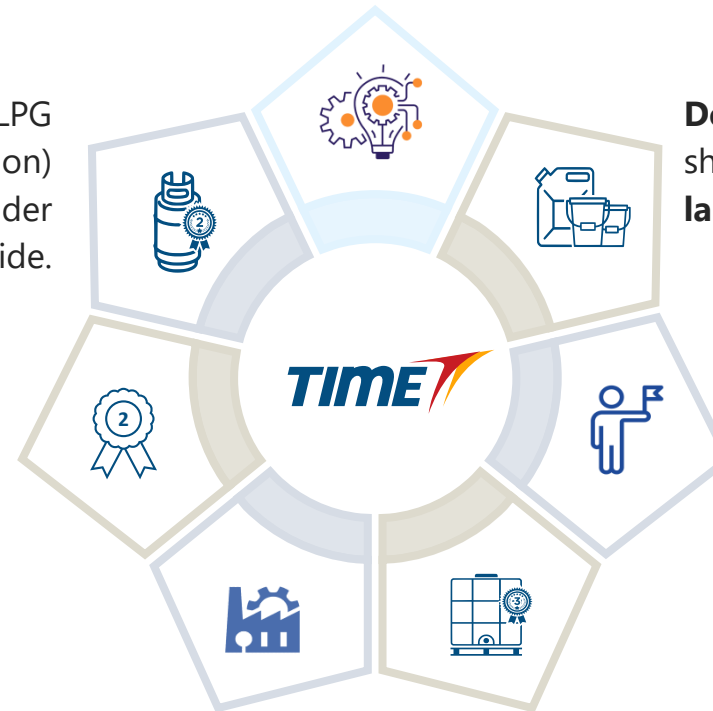
2nd largest MOX film manufacturer in India

Major Player in manufacturing of HDPE pipes in India

First to launch Intermediate Bulk Container (IBC) in India and **3rd Largest** IBC manufacturer worldwide.

Dominant market position with over 60% market share in domestic Industrial packaging. **World's largest manufacturer** of large size plastic drums

Market leader in 9 out of 11 countries it operates in



Time Technoplast At A Glance

Business Mix (FY23 total revenue : Rs. 4,293 Cr.)

Established Products (77%) (Rs. 3,321 Cr.)	Industrial Packaging Polymer Drums, Jerry Cans, Pails 66%	Infrastructure Polyethylene (PE) Pipes, Energy storage devices 7%	Technical & Lifestyle Turf & Matting, Disposable Bins, Auto Products 4%
Value-Added Products (23%) (Rs. 972 Cr.)	Intermediate Bulk Container (IBC) 12%	Composite Cylinders 8%	MOX Film (Techpaulin) 3%

Geographic Revenue Breakup (FY23)



Includes all Products

66%

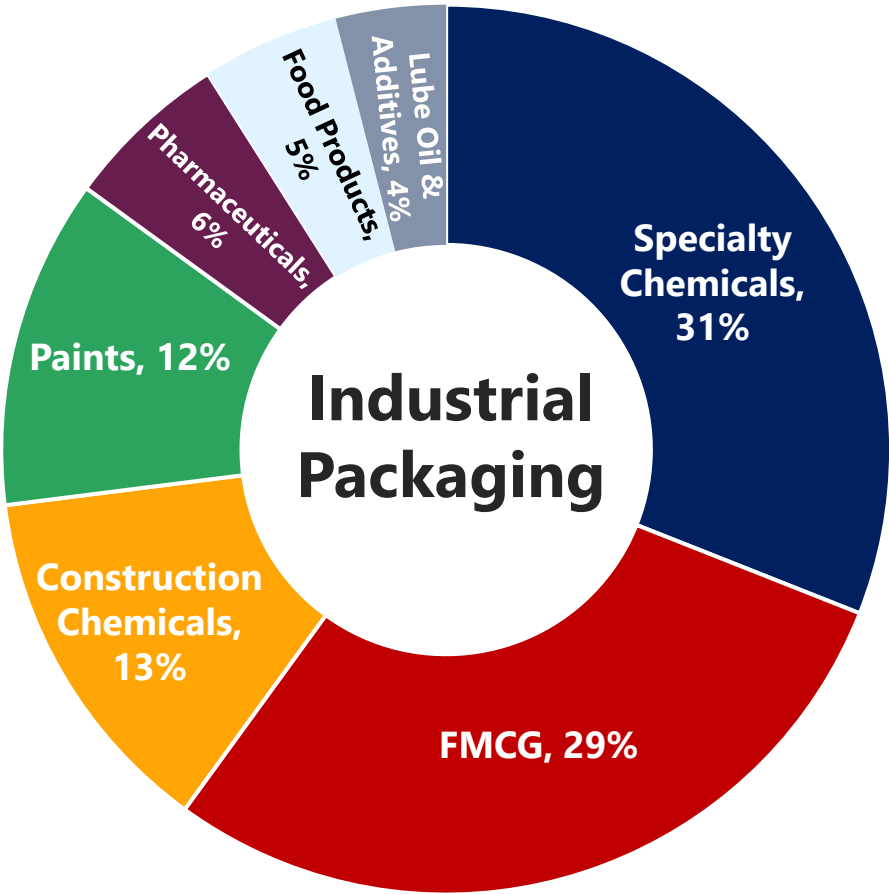


Packaging Products

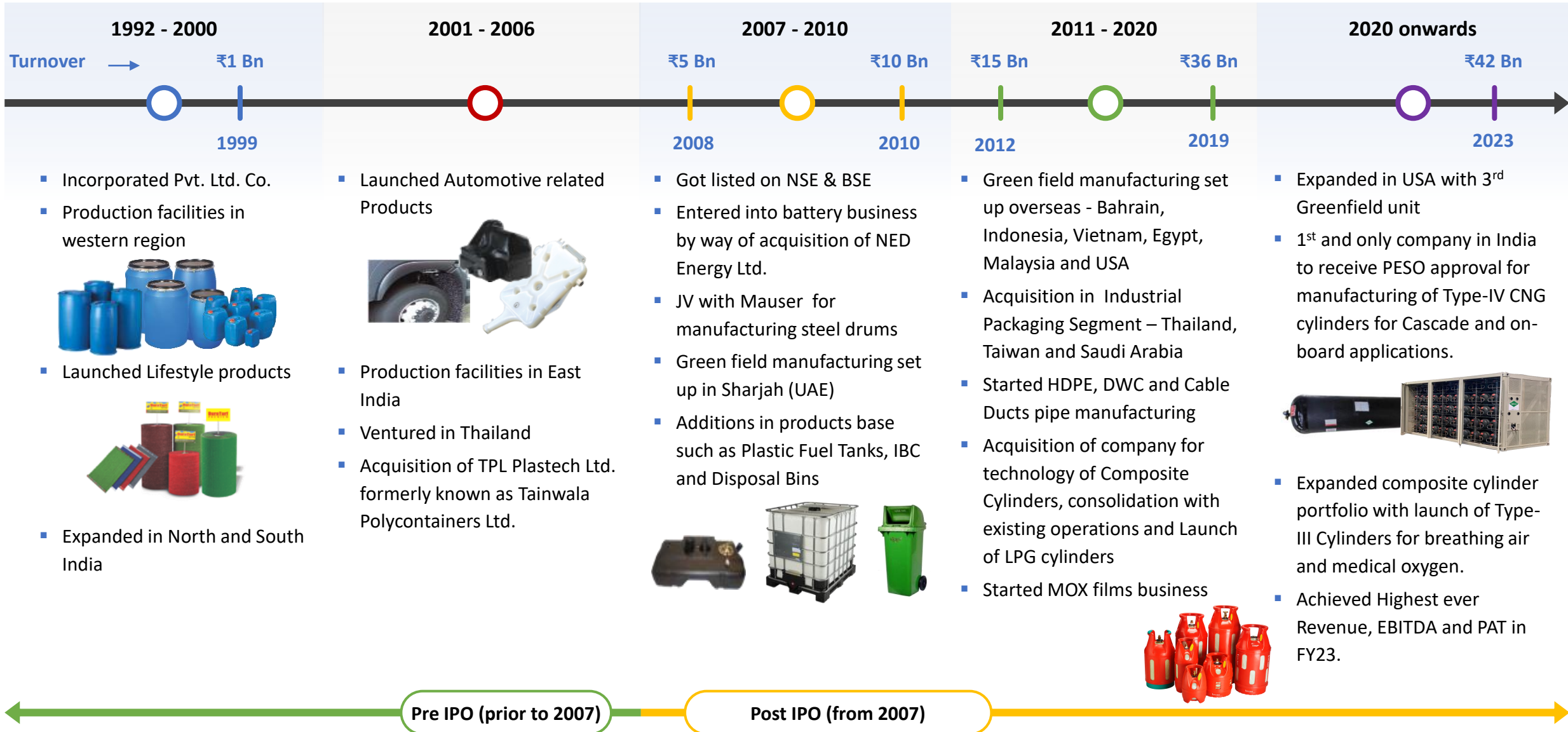
34%

- Strong presence in Asia & MENA regions with presence in 10 different countries outside India
- 14+ recognized brands with over 900 institutional customers globally
- Well established in-house R&D team of around 30 people having experience of more than 15 years

Industrial Packaging Sales by User Industry



Key Milestones



Board of Directors

Mr. Bharat Vageria

Managing Director

- Degree in Commerce and a Fellow of Institute of Chartered Accountants (FCA) with over 35 years of experience in the Polymer Industry.

Mr. Raghupathy Thyagarajan

Whole Time Director, Marketing

- Degree in Science and Masters in Business Administration from Mumbai University with over 30 years of industrial experience in Polymer Products

Mr. Naveen Jain

Whole Time Director, Technical

Degree in Engineering from IIT Delhi with over 30 years experience in Production, Quality Management and Projects Management.

Mr. Sanjeev Sharma

Whole Time Director

- Degree in Engineering and Business Management from IIM Indore with over 26 years of experience in the Polymer Industry

Mr. Vishal Jain

Non-Executive Director

- Degree in Engineering and Executive finance course from IIM, Bangalore with over 13 years of experience across leadership positions in varied functions

Mr. Sanjaya Kulkarni

Chairman (Non- Executive & Independent)

- Degree in Engineering from IIT and Business Management from IIM Ahmedabad with over 40 years of experience in Finance Industry

Mr. Mahinder Kumar Wadhwa

Director (Non- Executive & Independent)

- Degree in Science and a Fellow of Institute of Chartered Accountants (FCA) with over 35 years of experience in Accounts and Audits

Mr. Praveen Kumar Agarwal

Director (Non- Executive & Independent)

- Degree in Engineering and Post Graduation in Business Administration with over 40 years of experience in Government Organisation.

Ms. Triveni Makhijani

Director (Non- Executive & Independent)

- Degree in Bachelor of Arts with over 30 years of experience in Media and Communication

Innovative and Tech Oriented Products

Innovative Polymer Products	Industrial Packaging			Infrastructure		Auto Components
	Drums & Containers 	Jerry Cans 	Conipack Pails 	HDPE Pipes 	Energy Storage Devices 	
Value Added Products	Composite IBCs  		Composite Cylinders (LPG, CNG and Oxygen)    		MOX Films  	
Hi-Tech Products	DEF (Urea) Tanks 		Composite Air Tank 		Hydraulic Oil Tank  and more...	

Focus on Innovative & Tech oriented polymer products and have several firsts to our credit-

- **1st** to launch PE drums to replace steel
- **1st** to launch Tubular Gel Batteries
- **1st** to launch Anti-Spray Rain Flaps
- **1st** Plastic Fuel tanks in CVs
- **1st** to launch IBC
- **1st** to launch Composite Gas cylinders

Geographical Presence

Manufacturing Presence in **11 Countries** to meet local demand | **20 Manufacturing** locations in India



WE *are where* **OUR CUSTOMERS** *are....*

Focus on high growth manufacturing geographies

Global Marquee Customers

Established Products - Industrial Packaging

- Time Tech produces Polymer drums / barrels, Jerry cans and Pails for varied packaging requirements.
- The Company uses technologies of polymer processing such as blow moulding, injection moulding and extrusion to produce a wide range of products.
- These are made through a fully automated continuous process without any welds or joints. They are fitted with special stoppers, plugs, bungs, inserts, caps, handles to meet specific design & requirements.
- The Company caters to varied sectors like chemicals, paints and pigments, food and beverage, petroleum, industrial coatings, agricultural, pharmaceutical, mineral, packaging, automotive and building products.

Range:	5 Ltr to 250 Ltr capacity
Brand:	Techpack
Manufacturing Locations:	India (16) & Overseas (10)
Industry:	Chemicals, Petrochemicals, Paints, Etc.

Global Industrial Packaging Ranking (Polymer)

Company	Polymer Drums	IBC
Mauser	2	2
Schutz	3	1
Greif	4	4
TimeTech	1	3

TECHPACK[®]
Technology driven Packaging



Key Highlights

- Over 900 institutional customers
- Largest manufacturer of Industrial Packaging in Asia and MENA Region
- Increasing strategic tie-ups with MNCs across different countries due to significant presence in the Asia and MENA Region
- Market Leader in 9 out of 11 countries in Industrial Packaging

Industrial Packaging Industry – Market & Development

Market

- The global market for industrial packaging is estimated to reach \$123.2 Bn by 2032, at a CAGR of over 5.9% owing to increasing trends in end-use industries such as automotive, food & beverages, chemical, construction and oil & lubricant.

Drivers

- Shift from metal to polymer packaging due to technical and operational advantages and lower costs.
- A clear trend towards IBC is visible, which is correlated with a growing demand for reconditioning solutions mainly in developed regions.
- Given the presence of strong domestic demand for specialty chemicals, low cost of production and availability of skilled labour, large foreign players are increasingly looking at India as an alternative investment destination due to implementation of strict environmental norms in China.

Emerging Packaging Scenario

- Multinational companies looking east for lower cost of production.
- Bringing in Good Manufacturing practices and improved handling systems.
- Improvement in transportation and handling facilities.
- Bulk transportation reducing logistic and shipping costs

Packaging Product (Market Size)	Asia (Mn Units)			Global (Mn Units)		
	India	Rest of Asia	Total	Asia	RoW	Total
Steel Drum	11 (42%)	131 (88%)	142 (81%)	142 (81%)	127 (82%)	269 (82%)
Polymer Drums	15 (58%)	18 (12%)	33 (19%)	33 (19%)	28 (18%)	61 (18%)
Total	26 (100%)	149 (100%)	175 (100%)	175 (100%)	155 (100%)	330 (100%)
IBCs	0.5 (20%)	2.0 (80%)	2.5 (100%)	2.5 (17%)	12.0 (83%)	14.5 (100%)

Time Tech Customer Segment- Industrial Packaging

Segment	% Business	Expected Growth in FY24
Speciality Chemicals	31%	11% - 13%
FMCG	29%	11% - 13%
Construction Chemicals	13%	6% - 8%
Paints & Inks	12%	6% - 8%
Pharmaceuticals	6%	8% - 10%
Lube Oils & Additives	4%	6% - 8%
Others	5%	5% - 7%

Established Products - Infrastructure

High Density Polyethylene (HDPE) Pipes



- HDPE pipes are capable of handling semi-solid & gaseous effluents and has unmatched resistance to corrosive chemicals. They are lighter, easy to handle & install compared to heavier metallic or concrete pipes.
- These pipes are 100% leak proof therefore they are preferred over Galvanized, Ductile iron, Cement and conventional piping systems.

Range:	20 mm to 1400 mm in different pressure range.
Brand:	Max'm PE Pipes
Manufacturing Locations:	India (4)
Industry:	Water Supply , Irrigation, Sewage, Effluent Treatment, Desalination Plant, Power Plants, Cable ducting, Etc.

Launched new generation multilayer pipes for power / communication cable ducts with silicon in-lining. The pipes / ducts have substantial business potential specially in development of Smart Cities

Energy Storage Devices



- TimeTech manufactures valve-regulated lead-acid (VRLA) Batteries conforming to National and International Standards by adopting internationally proven Eco-Friendly processes.
- These batteries has a proprietary Grid alloy composition with high tin composition which improves the positive grid corrosion resistance and battery life.

Range:	Up to 3000 Ah
Brand:	MAX Life, MAX Pro, Sun Qualita & MAX Qualita
Manufacturing Locations:	India(2)
Industry:	Solar power, UPS, invertors, Telecom, Railway Etc.

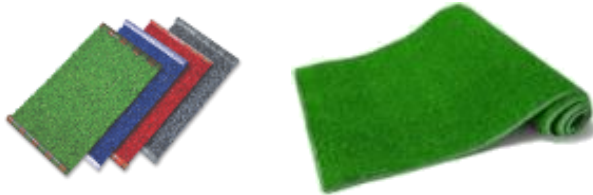
Established Products - Technical & Lifestyle

Turf & Matting

DuroTurf
PREMIUM

DuroSoft
Matting
Elegance with efficiency!

DuroWipe
ALL-PURPOSE MATTING



- TimeTech is one of the leading players in the matting segment. TTL has been delivering value for money solutions across industries and customers.
- These Lifestyle Products are not only functional but also add to the aesthetics
- Brands:**
 - Duro Turf/Soft: Mats used to scrape off dirt
 - Duro Wipe: Mats for wiping water
 - Duro Mat Regular
 - Duro Active: Mats for application in industrial outlets
 - Duro Comfort: For professionals demanding long standing hours
- Manufacturing Locations:** India(2)
- Industry:** Household, Hotels, Hospital, Multiplex, Etc.

Disposal Bins

DUMPO®
BINS



- Disposal Bins a necessity for hygienic life and made from recyclable material. These Bins adhere to stringent international quality standards. It's superior design ensures easy handling
- Offers high resistance to UV Radiation & Decay.
- Range:** 120 & 240 Ltr capacity
- Brand:** Dumpo Bins
- Manufacturing Location:** India(1)
- Industry:** Household, Commercial, Industrial, Municipal Corporation, Etc.

Auto Components

3S RAINFLAPS

TechDAT

TECHTANK



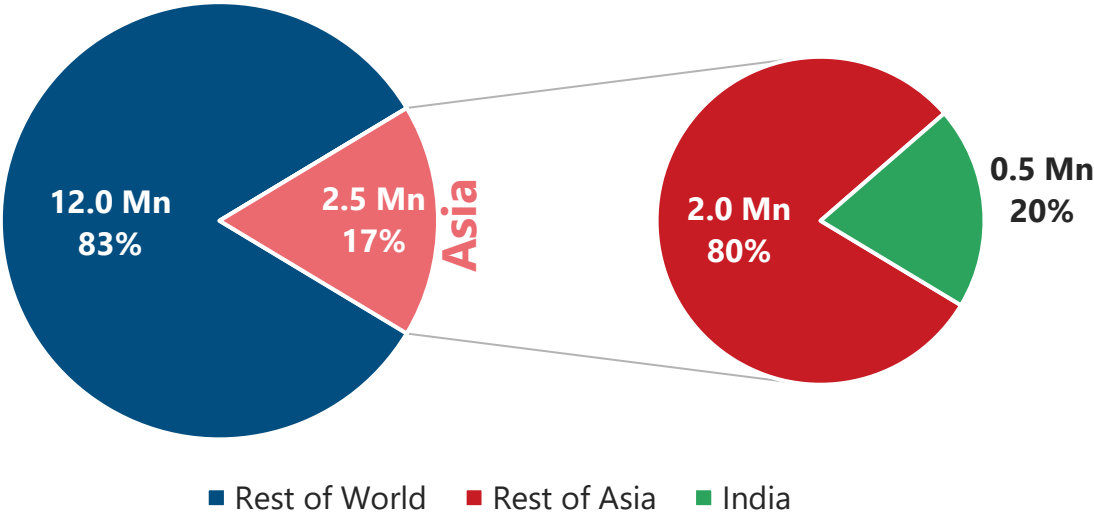
- Rain flaps consists of unique surface formed by multiple tufts / grass blades with a strong and sturdy backing.
- The company offers a range of high performance, dependable & long lasting De-aeration & Fuel Tanks., which are stronger, lighter in weight, corrosion resistant and more efficient to transfer the coolant.
- The Air Ducts manufactured by the Company meets the high performance requirement needed by the automobile industry.
- Brand:** 3S RainFlaps, TechDAT & TechTANK
- Manufacturing Locations:** India(3)
- Industry:** Automotive

Value Added Products – Intermediate Bulk Containers - IBC

Range:	<ul style="list-style-type: none">1,000 Ltr capacity
Capacity:	<ul style="list-style-type: none">6.3 Lakh units p.a. in India and14.4 Lakh units p.a. overseas
Users:	<ul style="list-style-type: none">Petrochemicals, Foods, Solvents, etc.
Features:	<ul style="list-style-type: none">Space Efficiency, Eliminate Waste, Durability and Eco-friendly.
Opportunity:	<ul style="list-style-type: none">Rapid growth in chemical industries across AsiaIncreasing automationMulti-fold growth in trade from Asia to the western countries
Position:	<ul style="list-style-type: none">3rd Largest manufacturer Worldwide.



IBC’s Market Size (Mn Units)



Value Added Products – MOX Film

Range:	<ul style="list-style-type: none">35 to 320 GSM thickness
Capacity:	<ul style="list-style-type: none">12,000 MT p.a.
Users:	<ul style="list-style-type: none">Agriculture, Infrastructure, Packaging, Commercial Vehicles and many more
Features:	<ul style="list-style-type: none">Tear/Puncture Resistant, 100% Waterproof, Weathering Resistant, UV Resistant, and Chemical Resistant.
Opportunity:	<ul style="list-style-type: none">The size of agricultural films market was USD 12.2 Bn in 2022 and is projected to grow at a CAGR of 6.9% to reach USD 18.5 Bn by 2028.Asia Pacific is likely to see robust growth in these films and TIME would be leveraging its wide distribution network in domestic as well as overseas market



Focus on Composites



We are at inflection point

Shifting from Tech based products to High-Tech products with focus on Composites

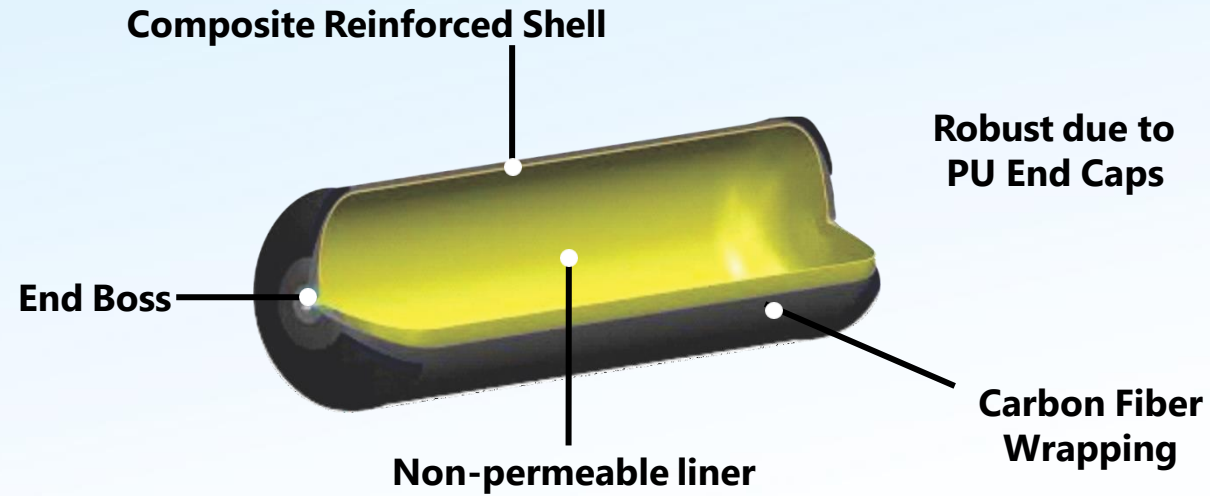
- Composite is a material of future replacing metals in high performance applications
- Tectonic shift
- Harnessing new growth opportunities in existing business
 - Launching new products with huge business potential
 - Aspire to be largest Composite product company in the country
 - New product launches will help improve margins and reduce working capital
 - We draw strength from the launch of LPG Composite Cylinders and maintaining market leadership in 10 years

Value Added Products – Composite Cylinders (LPG)



Range:	▪ 2kg – 22 kg capacity (largest in the world)
Capacity:	▪ 1.4 Mn units p.a.
Users:	▪ Household, Industrial, Trawlers, Caravans, BBQ, Street Cooking, etc.
Features:	▪ Explosion Proof, Non-Corrosive, Light and Efficient, and Low Maintenance.
Opportunity:	<ul style="list-style-type: none">▪ Received approvals in over 48 countries▪ LPG consumption has grown at robust 7% CAGR over last 10 years and LPG is the preferred cooking fuel in over 200 Mn households in India▪ There are 2.5 bn metal cylinders in circulation worldwide implying significant addressable opportunity▪ 240 Mn replace per annum – close to USD 6.7 Bn market size
Position:	▪ 2 nd Largest Manufacturer Worldwide

Value Added Products – Type-IV CNG Composite Cylinders



**Increases Gas
Carrying Capacity**



**70% Lighter
In Weight**



**Increases
Fuel Efficiency**



**Maintenance
Free**



**Metal free / Corrosion
free In liner**

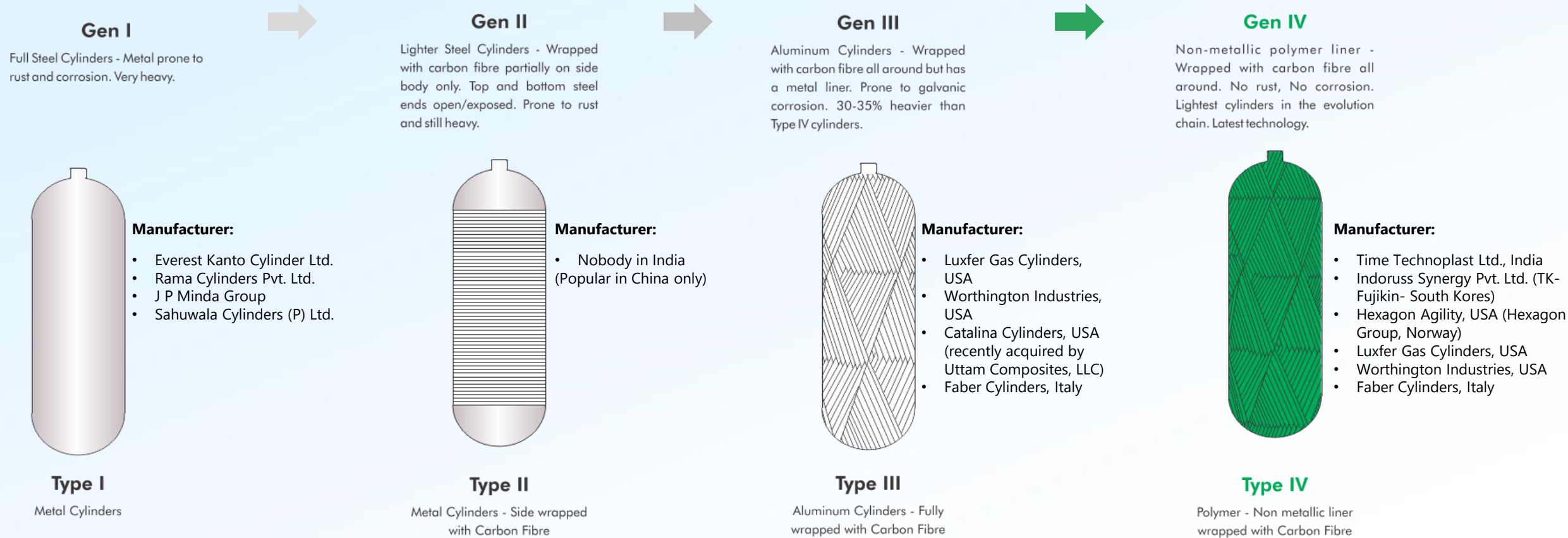


**Higher
Service Life**



Explosion Proof

Comparative Advantages – Type-IV CNG Composite Cylinders



Type-IV Cylinders– Sizes and Bar Pressure

CNG cylinders

Size	Working Pressure	Applications
60 Ltrs	200 Bar	On-Board Applications for vehicles
156 Ltrs, 350 Ltrs	250 bar	Storage and Transportation Applications
Hydrogen Cylinders		
60 Ltrs	500/700 Bar	For hydrogen Fuel cell Passenger vehicles
100 Ltrs, 150 Ltrs 350 Ltrs	500/700 Bar 350 Bar	For hydrogen Fuel cell passenger vehicles And Commercial Vehicles
350 Ltrs	350 bar	For storage & transportation of Hydrogen

New CNG Business in consonance with Govt.'s policy to expand use of CNG

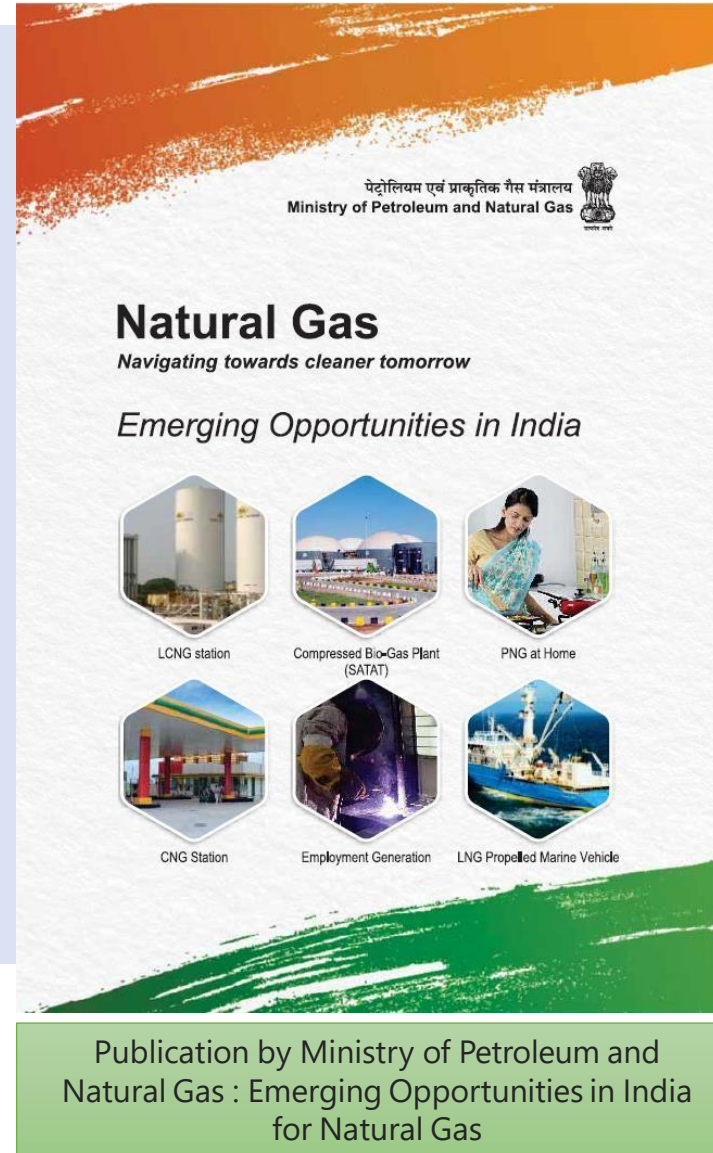
CNG Composite Cylinder Applications

- CNG Gas Distribution

- Cascades
- Mobile Refueling Units
- Compressed Bio-Gas Plant
- Gas Generators for Telecom Towers

- On – Board Applications

- Roof Mounted Bus
- Chassis Mounted Truck
- CAB Mounted Truck
- Boat
- Car
- 3 Wheelers / 2 Wheelers



Type-IV CNG Composite Cylinders – Cascade Application



Type IV CNG Cylinder Cascades
Lighter – Carries 220% More Gas



Type IV CNG Cylinder – Metal Free

Why Move Steel ?
Move Gas Instead.

70% Lighter
Than Type I Cylinders

2.2 Times More Gas
Per Trip

Reduce
Per kg CNG transportation
cost by almost 50%

No Dry Outs

- Approved by **PESO** and Third party (Bureau Veritas – Europe) in August 2020 for Type-IV cylinder for the **first time in India.**

Type-IV CNG Composite Cylinders – Cascade Application

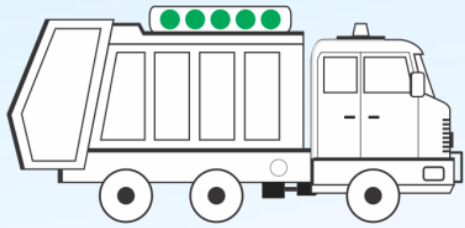
Carries **DOUBLE** the quantity of gas



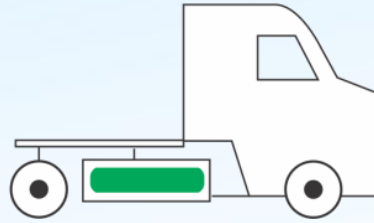
Cuts operations cost by **HALF**



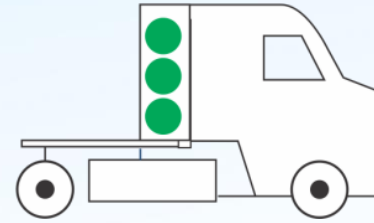
Type-IV CNG Composite Cylinders – Onboard Applications



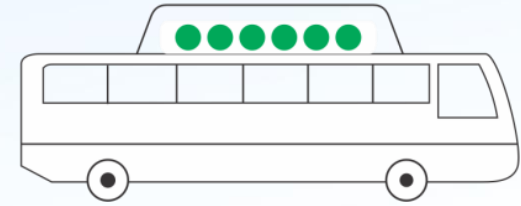
Dump Truck



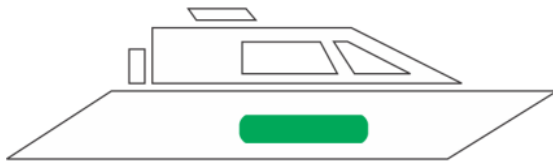
Chassis Mounted Truck



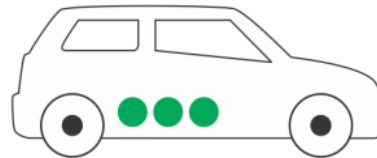
CAB Mounted Truck



Roof Mounted Bus



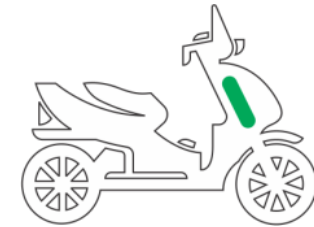
Boat



Car



3 Wheeler

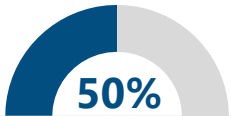
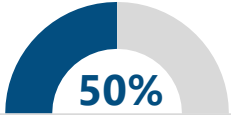


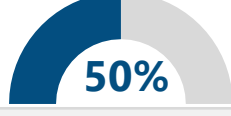



2 Wheeler

Approved by PESO and Third party (Bureau Veritas – Europe) in May 2021 for Type-IV cylinder for the first time in India.

CNG Cylinder : Overall Market Potential

Huge revenue potential given India's low penetration of CNG fuel stations and CNG vehicles

	Total Estimated Business (Rs. Cr.)	Business in No. of Years	Estimated Market Per Year (Rs. Cr.)	Conversion %	Total Estimated Business (Type-IV) per year (Rs. Cr.)
CNG Cascades	11,453	8	1,432	 50%	716
MRUs	1,320	4	330	 50%	165
Compressed Bio Gas	6,000	3	2,000	 20%	400
Gas Generators for Telecom Towers	4,800	4	1,200	 20%	240
CNG for Intracity Buses	5,304	4	1,326	 50%	663
Total Estimated value of Business	28,877		6,288		~2,200

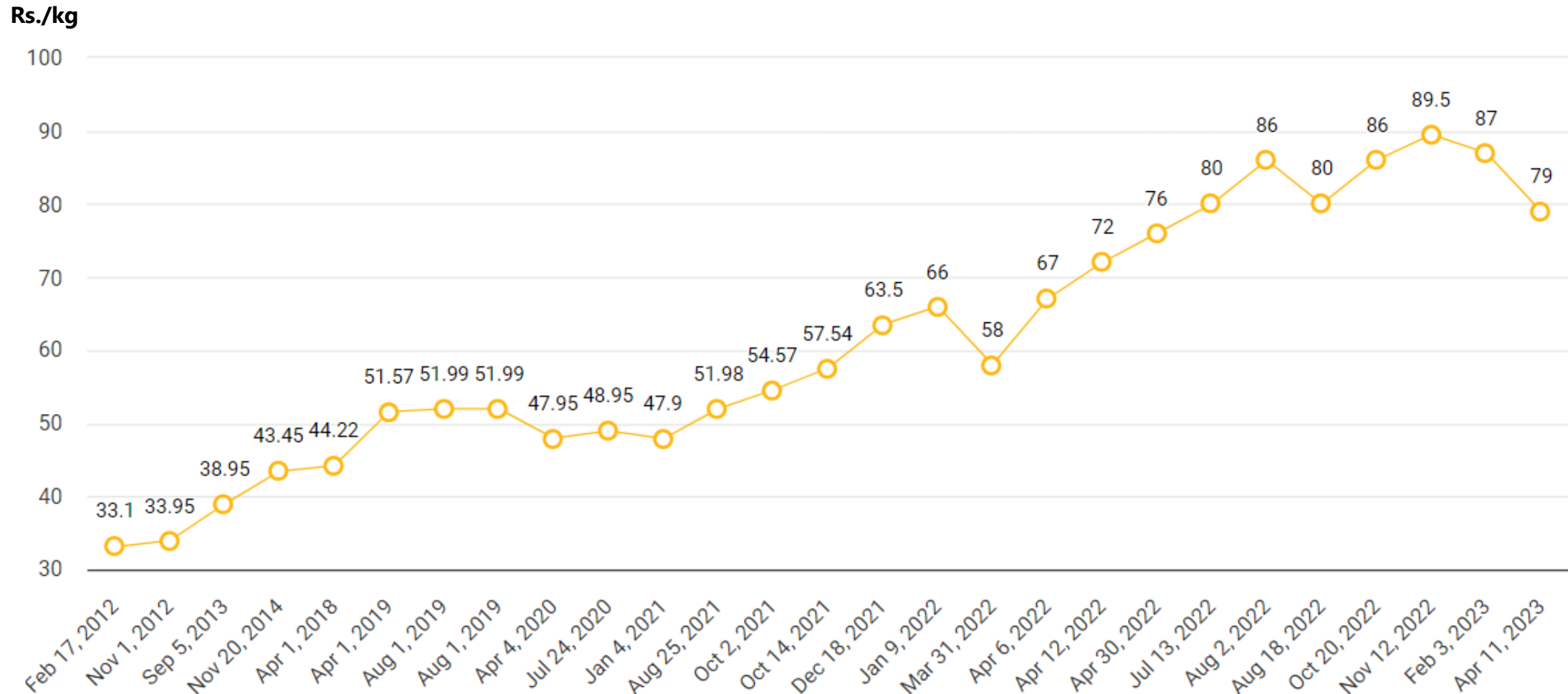
*Focus on buses; Commercial vehicles and passenger cars, estimated to have equal or more potential
Business from commercial vehicles and passenger cars not factored*

Geographical Area Allocated to CGDs



S. No	CGD Entity	Nos.	CNG stations	%
1	Consortium of AG&P LNG Marketing Pte Ltd. & Atlantic Gulf & Pacific	10	1462	18%
2	Indian Oil Corporation Limited	17	1213	15%
3	Indian Oil-Adani Gas Private Limited	19	876	11%
4	Hindustan Petroleum Corporation Limited	10	864	11%
5	Torrent Gas Private Limited	14	745	9%
6	Adani Gas Limited	17	501	6%
7	GAIL Gas Limited	14	377	5%
8	Bharat Gas Resources Limited	17	312	4%
9	Gujarat Gas Limited	24	310	4%
10	Indraprastha Gas Limited	11	306	4%
11	Think Gas	5	238	3%
12	Haryana City Gas	4	222	3%
13	Maharashtra Natural Gas Limited	4	218	3%
14	Megha Engineering & Infrastructure Limited	7	209	3%
15	AGP CGD India Private Limited	2	91	1%
16	Consortium of Assam Gas Company Limited, Oil India Limited and GAIL Gas	2	72	1%
17	Unison Enviro Private Limited	3	72	1%
18	IRM Energy Private Limited	3	35	0%
19	Rajasthan State Gas Limited	2	26	0%
20	Dholpur CGD Private Limited	1	14	0%
21	Tripura Natural Gas Company Limited	3	12	0%
22	Green Gas Limited	4	6	0%
	Total	193	8181	100%

CNG Price Chart



CNG prices have started coming down since last one year; A decline of 11.7% from November 2022

Increased price differential compared to other conventional fuel options will drive Auto demand

Recent News articles

RATIONALISATION OF NATURAL GAS RATES HELPS

Tata Motors Doubles Down on CNG Variants as Demand Surges

New launches, price differential with petrol, increased availability of CNG stations driving demand, says auto co

Sharmistha.M
@timesgroup.com

New Delhi: Tata Motors, the country's biggest automotive group by revenue, is looking at doubling the

In Fast Lane

TaMo expects 10-12% of its sales to come from CNG vehicles this fiscal, up from 6% in FY23

34,000-35,000 CNG vehicles are sold in the local market every month

Govt aims to put in place 8,000 CNG pumps across the country by the end of next year

sales of CNG vehicles went



"The value proposition of CNG cars remains strong. As the network (for dispensing CNG) grows, consumers will feel more confident in owning CNG vehicles. The share of CNG vehicles in overall sales in the industry will grow further," he said.

RISE IN SHARE
CNG accounted for 13% of all passenger vehicles sold in the country in the first two months of the year, up from 3.5% in 2019. Market leader Maruti Suzuki, which offers CNG options in 13 models, said it has seen an uptick in de-

27th June 2023- ET

- Tata Motors expect **10-12%** of its **sales** to come from **CNG vehicles in FY24**, up from **6%** in FY23.
- New launches, **price differential with petrol and increased availability of CNG dispensing stations** driving demand.
- **5,665 CNG distribution outlets** were operational in India by end of **March 2023** compared to **~1,400 outlets 3-4 years back**.

- Adani Total Gas Ltd (ATGL) plans to **build over 1,800 CNG stations in 7-10 years**.
- Along with IOCL JV, ATGL has presence in **124 districts with 460 CNG stations, currently**.
- Adani Total Energies Biomass (wholly owned subsidiary of ATGL) is currently building one of the **India's largest Compressed Bio Gas (CBG) plants at Barsana in UP with 600 TPD feedstock processing capacity**.
- **Reliance and ATGL** to set up **10 CBG plants** each with an investment of **USD 313 Mn each**. 5 of these will come in next 5 years. Currently there are 30 CBG plants in India.
- Sector to attract over **USD 2 Bn investments** in next **5-7 years**.

EXPANDING BIZ Co to widen portfolio of services to a range of clean fuels Adani Total Gas Plans to Build Over 1,800 CNG Stations in 7-10 years

Kalpna.Pathak
@timesgroup.com

Mumbai: Adani Total Gas (ATGL), a joint venture between Adani Group and French firm Total Energies, plans to build more than 1,800 CNG stations in the next seven to 10 years, its CEO Suresh P Mangla said in the company's annual report for 2022-23.

"ATGL is spreading its footprints pan-India. Added to this number are 19 GAs with our JV- Indian Oil Adani Gas (IOAGPL), we now have a presence in 124 districts."



WORK IN PROGRESS
The co has completed laying 10,888 km of steel pi-

28th June 2023- ET

RIL, Adani Total Gas Plan to Set up 10 CBG Plants Each

Cos may invest about ₹2,500 cr each for plants with 30 tonnes per annum capacity

Kalpna.Pathak
@timesgroup.com

Mumbai: Mukesh Ambani's Reliance Industries (RIL) and Gautam Adani-led Adani Total Gas (ATGL) are planning to set up 10 compressed biogas (CBG) plants each, across the country, senior executives aware of the development said.

These plants will be of upto 30 tonnes per annum capacity. Fi-

Biogas Trends

Five plants will be set in the next 5 yrs at strategic locations

5 of RIL's CBG plants will be in Gujarat & 5 would be across the country

India has nearly 30 CBG plants under operation

Sector to attract over \$2 billion investments in next 5-7 years

Compressed Bio Gas or CBG is a greener fuel produced from waste/ biomass sources



7th July 2023- ET

PNG SALES UP 11% DURING SAME PERIOD

CNG Sales Volume Grows 51% in 6 Months to March

Sanjeev.Choudhary
@timesgroup.com

New Delhi: City gas companies have grown their super-profitable CNG sales volume at a faster rate in the past two years than the less profitable segment of gas supplies meant for homes.

City gas distributors sold 19.4 million metric standard cubic meters a day (mmscmd) of CNG in six months to March 2023, up 51% from October 2020 to March 2021 period, oil ministry data showed. In the same period, the sale of piped natural gas (PNG) meant for cooking at home rose 11% to 2.9 mmscmd.

Sales to commercial customers that includes hotels and malls, dropped 25% to 0.7 mmscmd, while those to industries fell 38% to 10.3 mmscmd as high imported gas prices forced them to switch to alternative fuels.

As a result, the share of CNG in city gas distributors' overall sales sharply increased to 58% in two years from 39% in the six months to March 2021. The share of sales to industrial customers fell from 50% to 30%. The share of sales to households, or domestic PNG, rose marginally to 8.7% from 8%.

City gas companies get price-controlled domestic natural gas, which they can sell at market rates as CNG and domestic PNG. They are mostly

monopolies in their licensed areas, giving them pricing power and fat margins. CNG and domestic PNG prices are mainly influenced by the rates of alternative fuels such as petrol and LPG cylinders. Petrol is heavily taxed and mostly moves in line with international prices, while CNG and domestic PNG are very lightly taxed.

At March-end, the number of CNG stations in the country was 5,665, up 83% in two years. Domestic PNG customers expanded by 41% to 1.1 crore in the same period. Delhi is the largest market for CNG, while Gujarat is the largest market for domestic, commercial, and industrial customers of natural gas.



City gas distributors mostly import liquefied natural gas (LNG) to supply commercial and industrial customers. Extraordinarily high prices of natural gas in international markets in the past two years forced industrial and commercial customers to switch to alternative liquid fuels such as LPG and fuel oil.

India's LNG imports fell to 19.9 million metric tonnes (mmt) in the last fiscal year, down 22% from 25.6 mmt in 2019-20.

Expansion of CNG stations across the country, increased availability of CNG cars, and high petrol prices have combined to boost CNG sales in the country, an industry executive said.

15th August 2023- ET

PLANS TO ADD 400 CNG STATIONS & OVER A MILLION PNG CONNECTIONS THIS YEAR

GAIL's Natgas Transmission Volume may Rise 12% in FY24

Polymer sales likely to double this financial year, says chairman

Our Bureau

New Delhi: GAIL expects its natural gas transmission volume to expand 12% and polymer sales to double this financial year, said its chairman.

"Gas transmission and gas marketing are the key drivers of GAIL's business and during FY23, we transmitted 107 million metric standard cubic metres a day (mmscmd) of natural gas, marketed 95 mmscmd of natural gas and sold 399 thousand metric tonnes (tmt) of polymer," GAIL chairman Sandeep Kumar Gupta told shareholders at their annual meeting. "Current year seems more promising and it is estimated that your company will achieve over 120 mmscmd of natural gas transmission, over 100 mmscmd of na-



The implementation of unified tariff would also significantly boost capacity utilisation of natural gas pipeline network"
SANDEEP KUMAR GUPTA
Chairman, GAIL

tural gas sales and 800 tmt of polymer sales."

GAIL also expects the new levelised tariff determined by the regulator for its integrated pipelines to help boost its transmission revenues. "The implementation of unified tariff would also signifi-

cantly boost capacity utilisation of natural gas pipeline network," Gupta said.

GAIL is planning to add 400 compressed natural gas (CNG) stations and more than a million piped natural gas (PNG) connections this year, he said. GAIL's joint venture companies have licences to operate in 67 city gas areas, a little more than a fifth of the total 300 licensed city gas areas in the country.

GAIL has a capital spending plan of ₹30,000 crore for the next three years, which would mainly go into pipelines, petrochemical, city gas and equity contribution in group companies, Gupta said.

The company is exploring opportunities for ethane sourcing for its existing petrochemical plant while prospects of setting up of ethane cracker are being studied, he said.

GAIL has taken initiatives for the development of renewable energy such as floating solar power projects and setting up renewable power plants for captive consumption, said Gupta.

24th August 2023- ET

Tokyo Gas Joins Race to Acquire Stake in Think Gas Distribution

I Squared-owned co's valued at \$1-1.2 b, Mubadala also keen on stake buy

Reghu.Balakrishnan
@timesgroup.com

Mumbai: Japan's largest provider of city gas Tokyo Gas has joined the race to acquire a minority stake in Think Gas Distribution, Indian natural gas supplier owned by private equity fund I Squared Capital, said two people aware of the development. Founded in 1885, Tokyo Gas is the city gas provider in the Tokyo metropolitan area and surrounding Kanto region.

Tokyo Gas is doing due diligence at present, said sources. The potential investor will buy about 30% stake in Think Gas, valuing the company at \$1-1.2 billion.

Investment bank Barclays is advising I Squared for the stake sale.

Mubadala Investment, the sovereign wealth fund of the United Arab Emirates, is the other major contender for the minority stake.

Mubadala Investment and a cou-

Race to Acquire

Tokyo Gas eyes minority stake in Think Gas Distribution, valued at **\$1-1.2 billion**

Mubadala Investment Co. is a major contender in the race

I Squared Capital plans to merge Think Gas and AG&P City Gas biz



Tokyo Gas to invest **¥2 trillion (\$17.5 b)** in cleaner fuels, including hydrogen

India's natural gas demand expected to grow at a CAGR of 8%



As a financial institution backed platform, I Squared's city gas dis-

mix of primary and secondary investment, said sources.

Mails sent to I Squared Capital and Tokyo Gas did not elicit any response till press time.

AG&P has 12 long-term 25-year exclusive concessions in the five states of Rajasthan, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, while Think Gas has seven licenses to operate across 13 districts in India, across the states of Punjab, Madhya Pradesh, Bihar, Uttar Pradesh and Himachal Pradesh.

Tokyo Gas will spend two trillion yen (\$17.5 billion) on cleaner fuels, such as hydrogen, and renewable power with the aim of doubling its profit to 200 billion yen by 2030, said a recent Reuters report.

Tokyo Gas and other utilities are stepping up overseas expansion as they face falling demand in Japan, which has an ageing population and a declining birth-rate, while the liberalisation of its energy markets has spurred competition among old-guard utilities, said the report. The \$22-billion Tokyo Gas is engaged in diverse businesses spanning electricity generation.

29th November 2023- ET

- Gas Authority of India Limited (**GAIL**) plans to **add 400 CNG stations in FY24.**
- Plans to add over **a million Piped Natural Gas (PNG)** connection in FY24
- **Capital expenditure** plan of **INR 30,000 crore over the next 3 years** towards city gas, pipelines and petrochemicals
- As per the company, implementation of unified tariff would also significantly boost capacity utilisation of natural gas pipeline network
- GAIL expects its natural gas transmission volumes to expand 12% and polymer sales to double in FY24

Market Potential : CNG Cascades

New CNG stations allotted in 9 th and 10 th round	8,181
Number of Cascades required per station	2
Total number of cascades required	16,362
Estimated cost of one cascade (Rs. per cascade)	70,00,000
Total Value of Business in next 8 years (Rs. Cr.)	11,453



9th & 10th CGD Bidding Round – A Great Success

Particulars	9 th Round	10 th Round	Total
Geographical Areas offered	86	50	136
Bids received	406 Bids from 38 Entities	225 Bids from 25 Entities	631 Bids from 41 Entities
Coverage			
State/Union Territories	22	14	23
(a) Districts	174 Districts (156 full & 18 part)	124 Districts (112 full & 12 part)	298 Districts (268 full & 30 part)
(b) Area (%)	23.82	17.92	41.74
(c) Population (%)	26.38	24.23	50.61
Minimum Work Program			
PNG Domestic Connections	221 Lakh	202 Lakh	423 Lakh
CNG Stations	4,603	3,578	8,181
Steel Pipeline (Inch-KM)	1.16 Lakh	0.58 Lakh	1.74 Lakh

Source: Petroleum and Natural Gas Regulatory Board

Type-IV CNG Composite Cylinders – Mobile Refueling Units (MRUs)

India's First Mobile Refueling CNG Unit with Type-IV Composite Cylinders

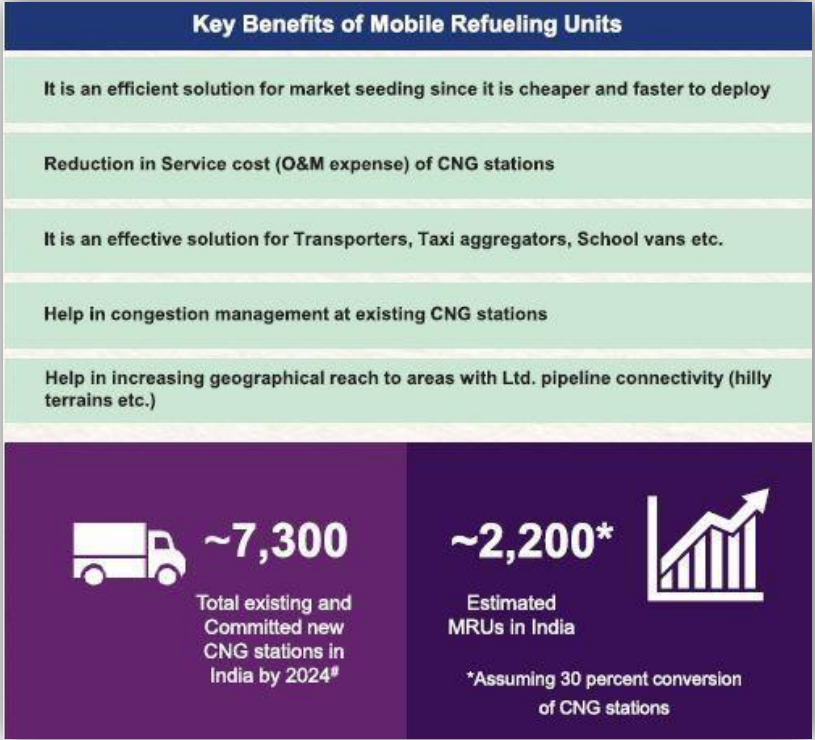
Virtual inauguration on June 8, 2021 by Mr. Dharmendra Pradhan-
Union Minister for Petroleum and Natural Gas



- MRUs act as Mobile CNG Stations
- Can be parked anywhere for filling
- Fills up to 300-400 vehicles per day

Market Potential : Mobile Refueling Units (MRUs)

Total existing and committed new CNG stations in India by 2024	7,300
Conversion to MRUs (~30%)	2,200
Estimated cost of one cascade (Rs. per cascade)	60,00,000
Total Value of Business in next 4 years (Rs. Cr.)	1,320



Source: Ministry of Petroleum and Natural Gas- Emerging Opportunities in India

Market Potential : **Compressed Bio-Gas (CBG)**

Total CBG plants by 2023	5,000
Number of Cascades required per plant	2
Total number of cascades	10,000
Estimated cost of one cascade (Rs. per cascade)	60,00,000
Total Value of Business in next 3 years (Rs. Cr.)	6,000



❖ Under the SATAT scheme, total 5,000 CBG plants have been envisaged by 2023, which will produce around 15 MMT of CBG per annum.

Potential in the Country

- It has been estimated that there are six major sources from which CBG can be synthesized in India – Recoverable Cattle Dung, Bagasse, Agri residue, Sewage Treatment Plant, Municipal Solid Waste and Spent Wash/Press Mud.

• The total CBG potential in India has

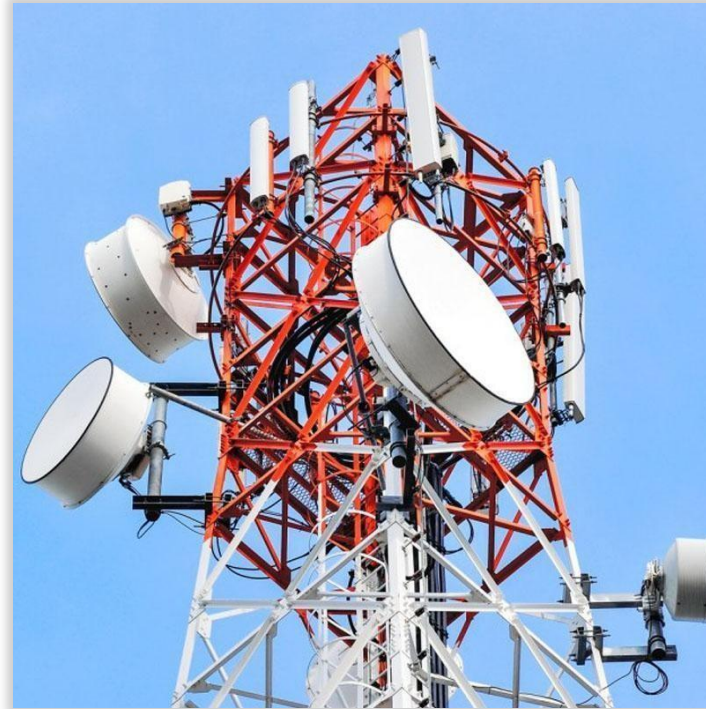
Benefit to the Country

- As per international carbon accounting standards, CBG has 'zero' associated Carbon emissions.
- Reduction in emissions due to crop burning.
- Reduction in landfill emissions due to municipal and sewage waste.

Source: Ministry of Petroleum and Natural Gas- Emerging Opportunities in India

Market Potential : Gas Generators for Telecom Towers

Towers- 20% of existing Telecom Towers use gas generators(~ 1.8 lakhs towers)	32,000
MRUs required (1 MRU for every 4 towers)	8,000
Estimated cost of one cascade (Rs. per cascade)	60,00,000
Total Value of Business in next 4 years (Rs. Cr.)	4,800



Opportunity in India

- Addressable market for conversion to gas generators is estimated to be ~1.8 lakh towers.
- The market is expected to grow at a CAGR of 3 percent over the next 4-5 years.
- Assuming 20 percent of existing and upcoming telecom towers use gas generator as back-up fuel, the total realizable potential is estimated to be around 32,070 towers.

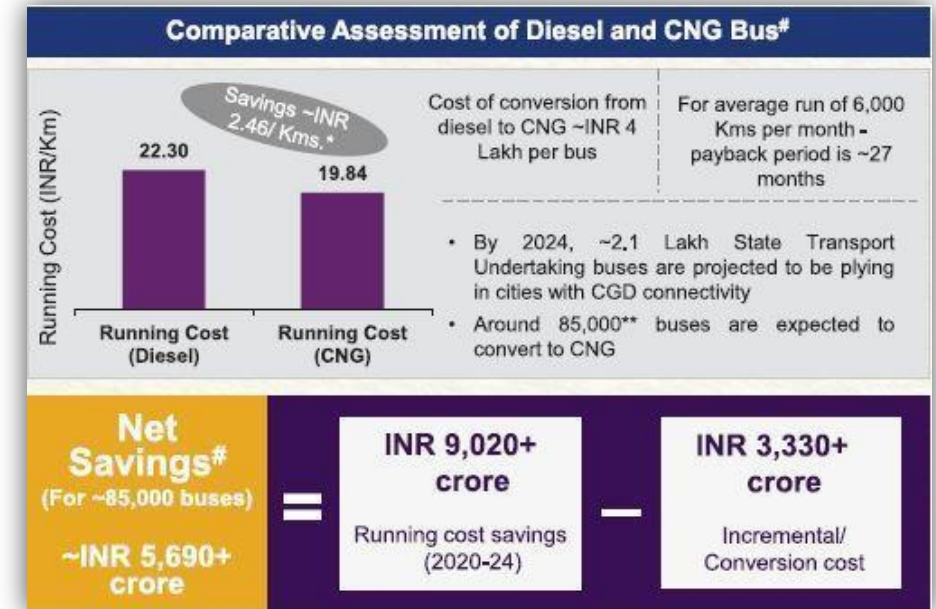
Cost Benefit Analysis

- The cost of retrofitting a 25KVA DG set is ~INR 3 lakhs, while the cost of a new 25KVA Gas based generator set is ~INR 5 lakhs*.
- The cost of retrofitting a 125KVA DG set is ~INR 6 lakhs, while the cost of a new 125KVA Gas based generator set is ~INR 13 lakhs*.
- For an average outage of 4 hours per day, annual consumption of 5,760 litre of diesel may be replaced by Natural Gas.
- Total annual diesel savings for 32,070 towers is estimated to be 184.7 million litre (0.18 percent of India's diesel consumption).

Source: Ministry of Petroleum and Natural Gas- Emerging Opportunities in India

Market Potential : Onboard Applications – Intracity Bus

No. of buses on road by 2024	2,10,000
Buses converted to CNG (~40% conversion)	85,000
No. of cylinders per Bus	8
Total No. of Cylinders required	6,80,000
Estimated Cost of 156 litre cylinder (Rs. per cylinder)	78,000
Total Estimated value of Business in next 4 years (Rs. Cr.)	5,304



Source: Ministry of Petroleum and Natural Gas- Emerging Opportunities in India

Focus on Buses; to be followed by commercial vehicles (new & conversion) and passenger vehicles.

Value Added Products **Recent Developments**

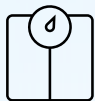
Type-III Composite Cylinder for Breathing Air/ Medical **OXYGEN**

- Successfully developed Fully Wrapped Carbon Fibre Reinforced (Type-III) Composite Cylinder for Breathing Air/ Medical Oxygen; 1st locally manufactured cylinder to get approval from PESO in India.
- Application as Self-Contained Breathing Apparatus (SCBA) by-
 - ✓ Fire Fighters,
 - ✓ Hospitals
 - ✓ Divers (SCUBA)
 - ✓ Portable home oxygen bottles
 - ✓ Mountain climbers at high altitudes
 - ✓ Emergency use in ambulances

Numerous advantages over Type-I metal cylinders



- Explosion Proof



- 60% lighter in weight than Type-I metal cylinders



- No Rusting and No Corrosion



- Long service life



Type-III Composite Cylinders form a part of High-Tech Composite Products and are classified under Value-added products.

Value Added Products **Recent Developments**

Composite Air Tank for Heavy Vehicles



- The air compressor draws filtered air from the atmosphere and compresses it, storing the compressed air in high-pressure reservoirs.
- Currently these reservoirs are made-up of steel which are very heavy & prone to corrosion due to presence of moisture in the air.
- Time Technoplast Limited, first time in the world has developed these Type-4 Composite tanks which are 54 % lighter than steel tanks, has long life, no corrosion & can sustain large pressures.

Specification

- Capacity : 30L
- Material : Liner-HDPE
Composite-Glass fibre + Epoxy resin
- Weight : 5.6 kg
- Weight of metal air tank : 12 kg
- Weight saving- 54%
- Customer name- TATA MOTORS
- Vehicle name-Tata Ultra 9/9m EV & Tata Ultra 9/12m EV



Commercial supply started to TATA Motors.

Products **Recent Developments**

WIPRO Hydraulic Tank- 120 Litre



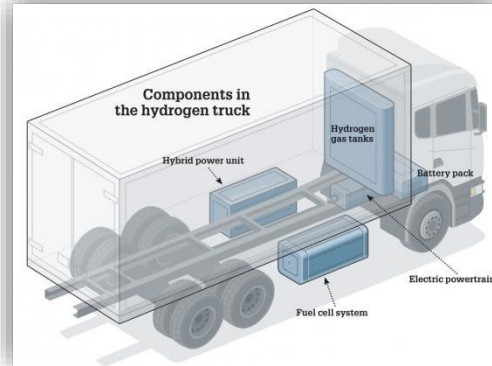
- All the tippers with back body tilting arrangement uses hydraulic systems for tilting operation.
- Currently Wipro is supplier of this hydraulic system with metal hydraulic oil tank to the Automotive OEM's.
- 1st time in India, Time Technoplast Limited has developed this polymer hydraulic oil tank for Wipro.
- Advantages-
 - 75 % lighter than the metal tank of same capacity.
 - No contamination of the oil due to tank corrosion.

Specification

- | | |
|----------------------------------|---------------------------------------|
| • Capacity : 120L | • Weight saving-75% |
| • Material : HDPE | • Vehicle name-Tata Signa 3523 Tipper |
| • Weight : 7.5 kg | • Customer: Wipro |
| • Weight of metal tank : 30.5 kg | • Supply location: Bangalore |
-

Value Added Products Under Development

Hydrogen Cylinder for Fuel Cells



- Type-IV Carbon wrapped cylinders
- Light weight (90% weight reduction) - provides better fuel economy and better payload
- Reliable and safe
- Applications – Hydrogen Cars, power generation (Towers)

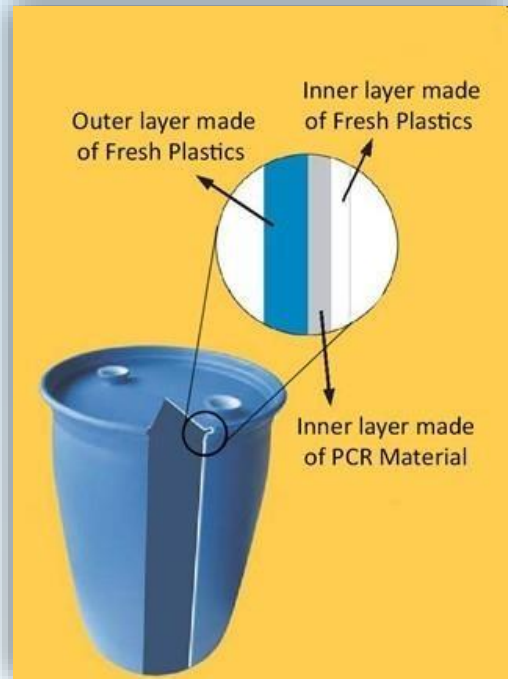
Composite Water Heater



- Made with HDPE inner liner & glass fibre composite outer winding retains heat for longer time.
- Life Time Warranty
- Light weight (70% less), not prone to leakages, longer life, no denting, no scratches, corrosion free, no smelly water and less power consumption

Towards a **SUSTAINABLE** future with Technology and Transformation

Continuous Innovation to create a **POSITIVE** Environmental Impact
Focus on reduction of waste from packaging products by **RECYCLE** and **REUSE**

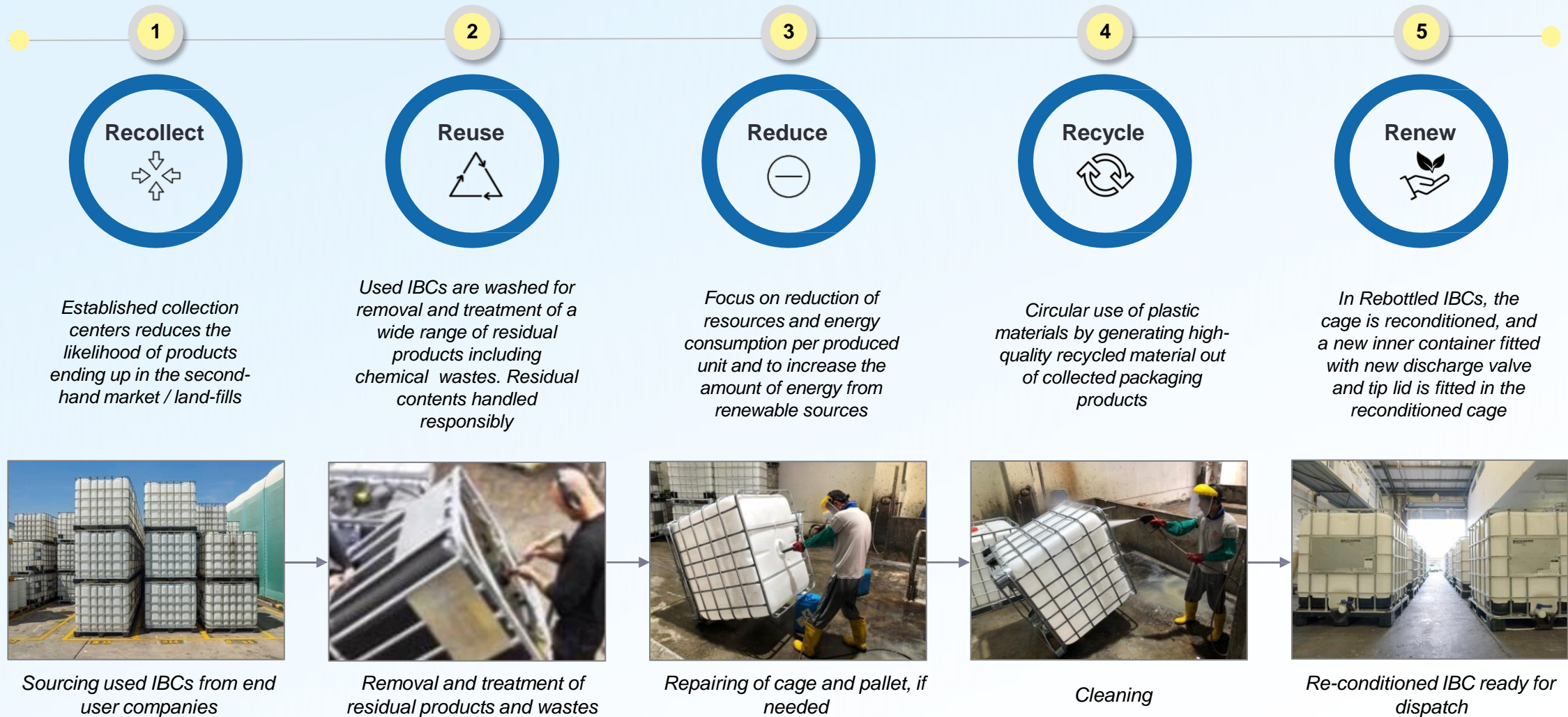


Introduction of Multi-Layer Technology for Industrial Packaging products (Drums, Jerry cans and IBCs) for use of Post Consumer Recycled (PCR) material in the middle layer of the product.

Use of PCR material to manufacture Intermediate Bulk Container (IBC) Components like seal cap, security flap, corner protector, pallet etc.



REBOTTLE & REUSE of IBC with collection system



Continuous measures and innovation in place to optimize the use of water, fossil fuels and raw materials across processes

Focus on ESG for a Sustainable Development



- 5% Reduction in Carbon Footprint from FY22



- Developed 10% Green Belt by planting the trees like Mango, Ashok etc.



- Saving of 5% from Renewable Energy (Solar Power) to Total Electricity Consumption



- PAN India units registered under EPR, for reprocessing packaging products post-consumer use



- 5% Reduction in hazardous waste from FY22 by implementing 3R (Reduce, Recycle & Reuse)



- Ground water make up by installing Rainwater Harvesting



- Employee Wellness- Medical check-up, Yoga & Stress Management sessions; Employee Welfare Trust to provide support

Our CSR efforts for a better society and a better tomorrow



Growth Drivers

- **Core Business- Industrial Packaging**

- Huge growth opportunities for global industrial packaging market

Projected to grow from USD 69.5 Bn in 2022 to USD 123.2 Bn by 2032 (5.9% CAGR)

- Chemicals, Pharmaceuticals , Food & Beverages etc. expected to grow significantly.
 - Shift of chemical manufacturing base from China to **India and other Asian countries**, significant growth opportunity.
 - Intermediate Bulk Containers (IBC's) gaining popularity due to cost effectiveness, easier handling and emphasis on sustainability.
 - Faster replacement from metal to polymer and composite products due to substantial increase in steel prices.
- Huge potential market of around Rs. 2,200 Cr. per year for CNG cascades and CNG onboard applications aided by government thrust (Lower import bill and commitment for climate change).
 - Government focused spend on Infra projects and development of smart cities (HDPE pipe business to contribute going forward).

Way Forward

**Chemical production shifting
from China to other Asian
countries**



IBCs growing faster

Time is the largest and major player
in most countries it operates in



**Recycling efforts to
encourage sustainability**

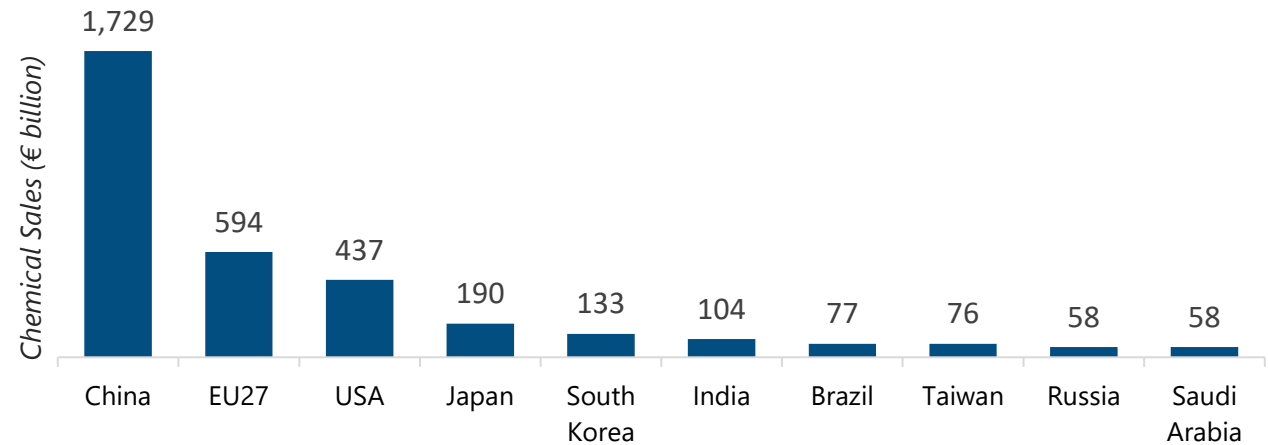


**Polymer and Composite
products to gain share from
metals**



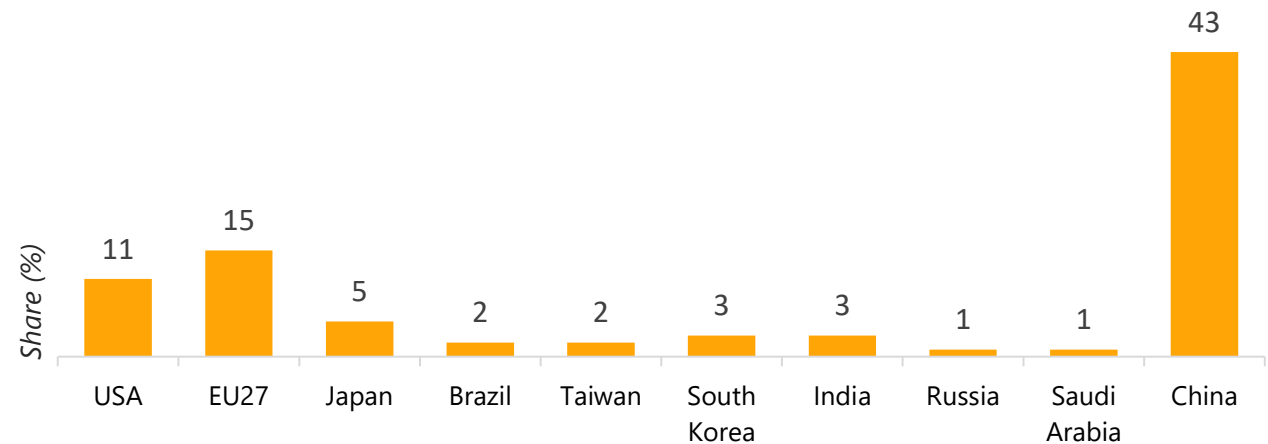
Global Chemical Industry

2021 Chemical Sales By Country: Top 10



For the year 2021, World chemical sales (excluding pharmaceuticals) stood at €4,026 Bn.

2021 Chemical Share (%) By Country: Top 10

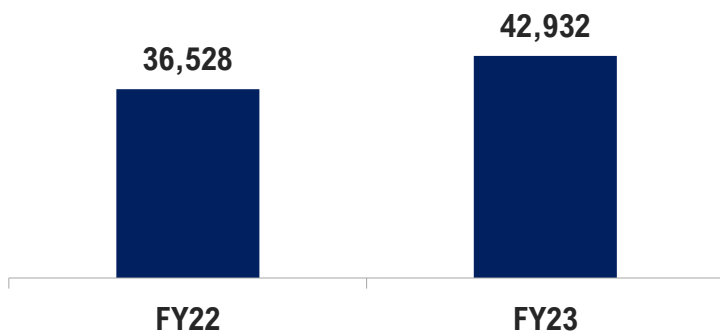
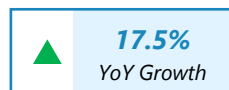


China dominates the world chemical market while India holds its position as 6th largest.

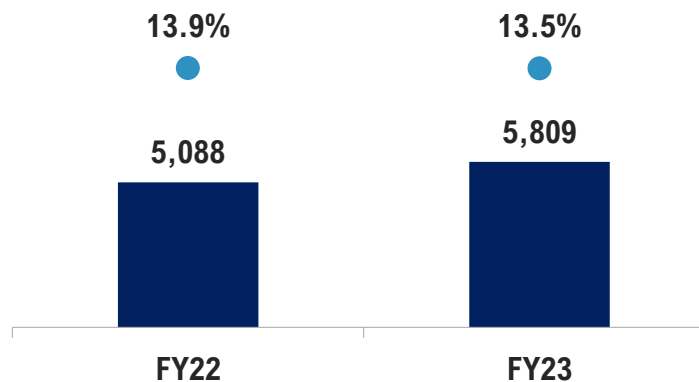
Source: Cefic Chemdata International

FY 23 Financial Snapshot

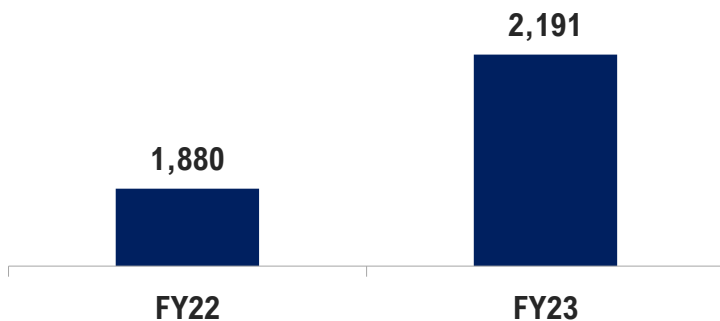
Total Income (₹ Mn)



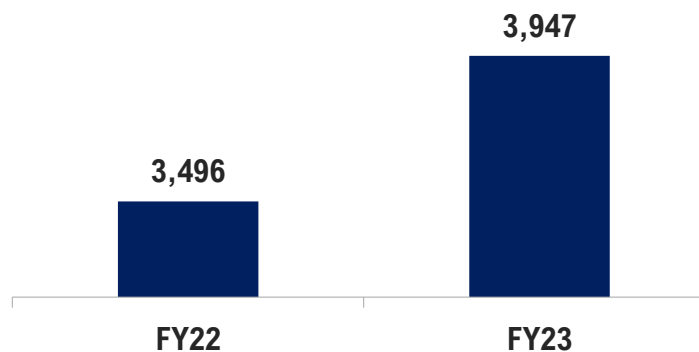
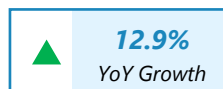
EBITDA (₹ Mn) and Margin (%)



PAT (₹ Mn)



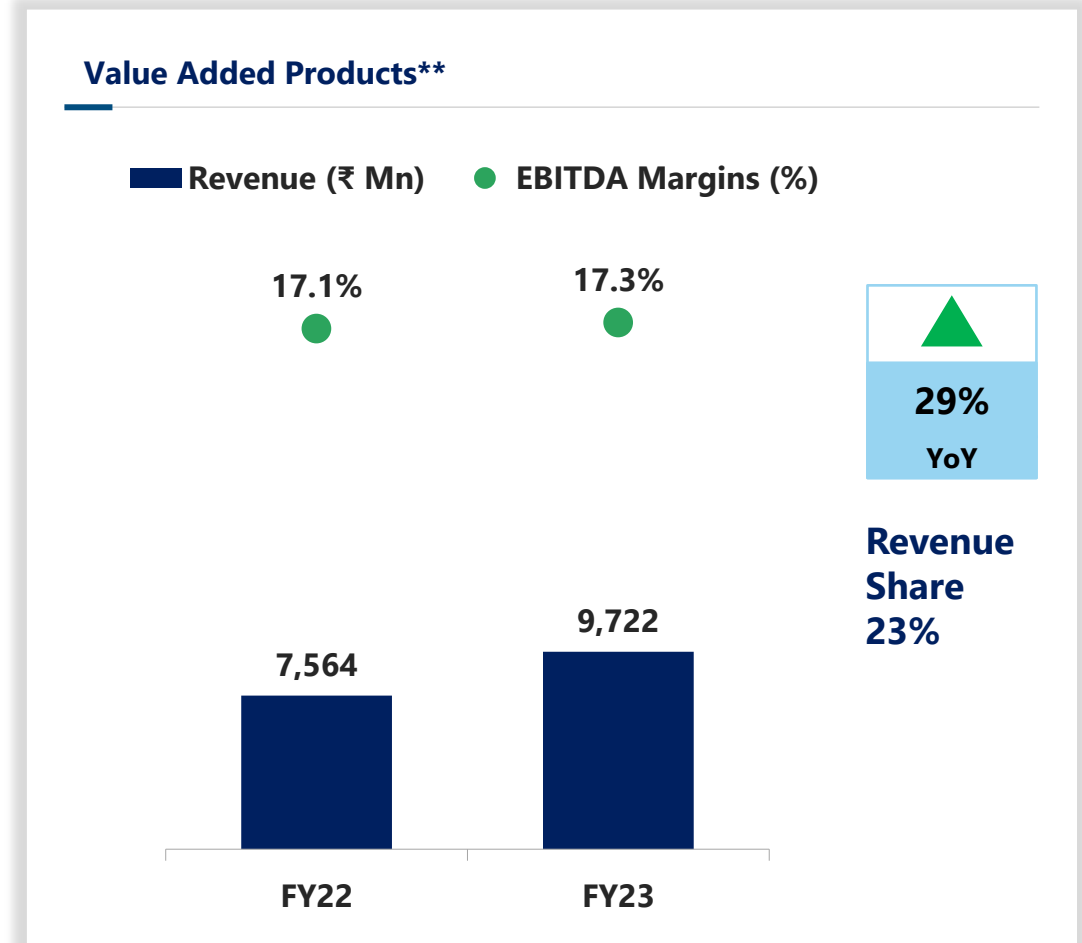
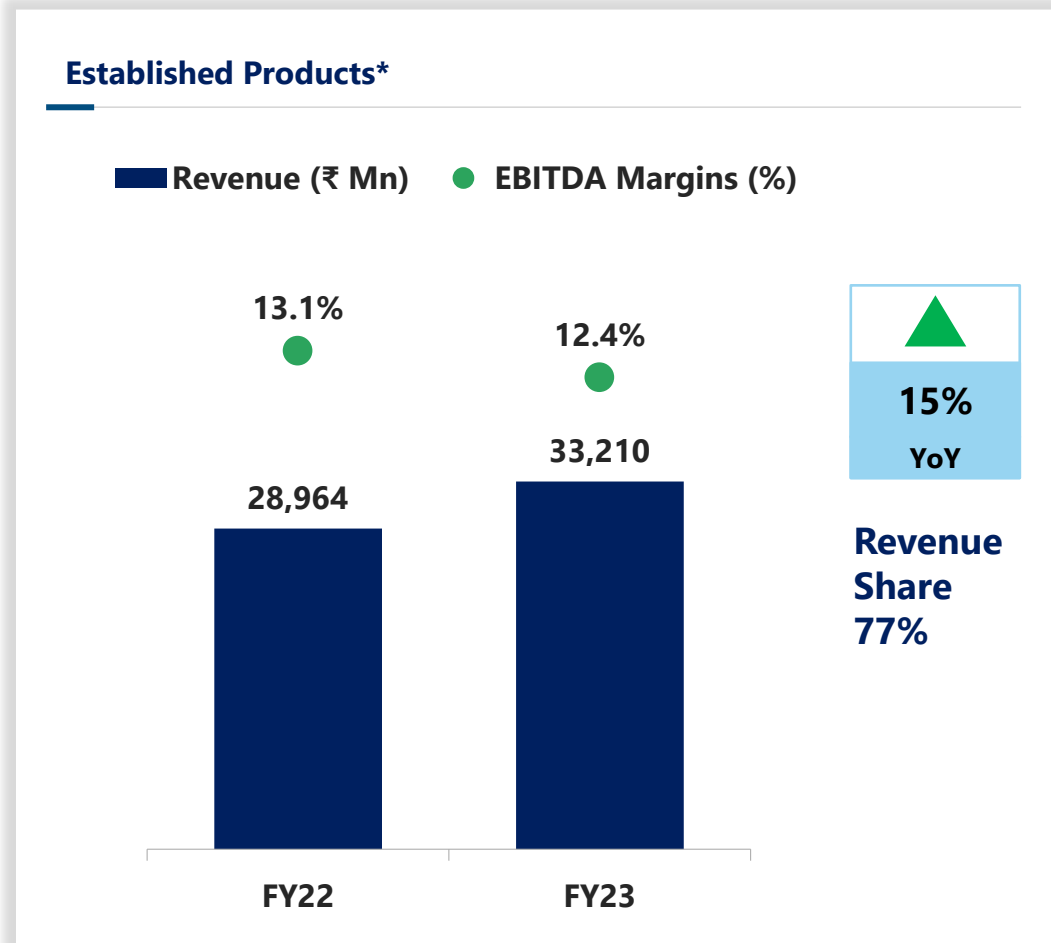
Cash Profit (₹ Mn)



Particulars	India	Overseas
Volume Growth (13% YoY)	10%	22%
Revenue Growth (18% YoY)	13%	28%
Revenue Contribution	66%	34%
EBITDA Margin	13.8%	13.1%
PAT Margin	4.8%	5.7%
Cash Profit Margin	9.0%	9.3%

- Highest ever Revenue, EBITDA and PAT achieved in FY23.
- Total Debt reduced by ₹ 152 Mn in FY23 from previous year ended FY22.
- Value-added products grew by 29% in FY23 as compared to FY22, while established products grew by 15%. The company's focus remains to increase the share of value-added products in its revenue and improve margins

Strategic Direction towards Value Added Products

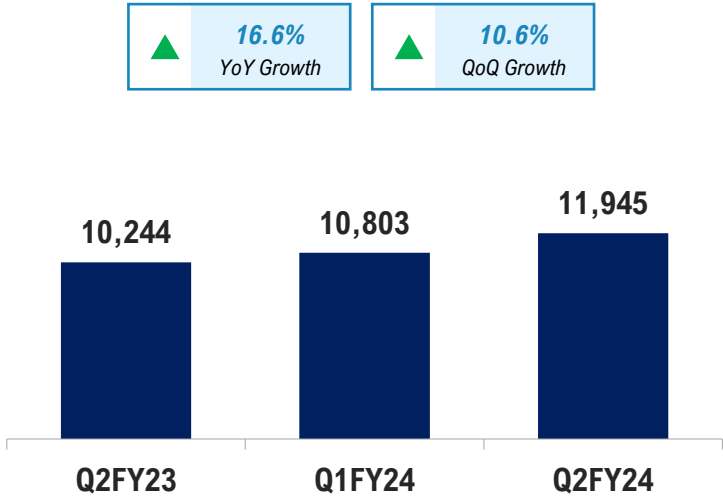


***Established Products-** HM-HDPE plastic Drums/Jerry Cans and Pails, Polyethylene (PE) pipes, Turf & Matting, Disposable Bins, Energy storage devices, Auto Products and Steel Drums.

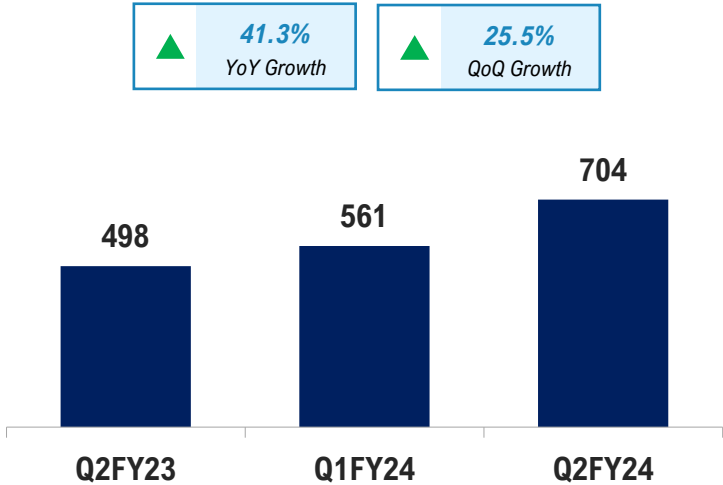
****Value Added Products-** Intermediate Bulk Containers (IBC), Composite Cylinders (LPG & CNG) and MOX Films.

Q2 FY 24 Financial Snapshot

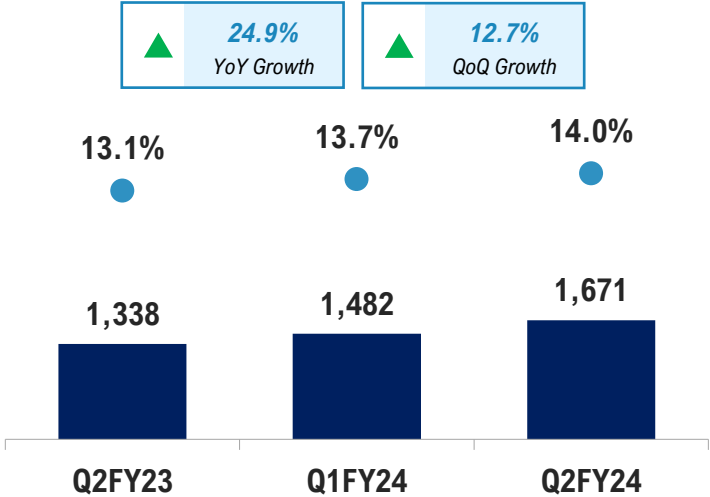
Total Income (₹ Mn)



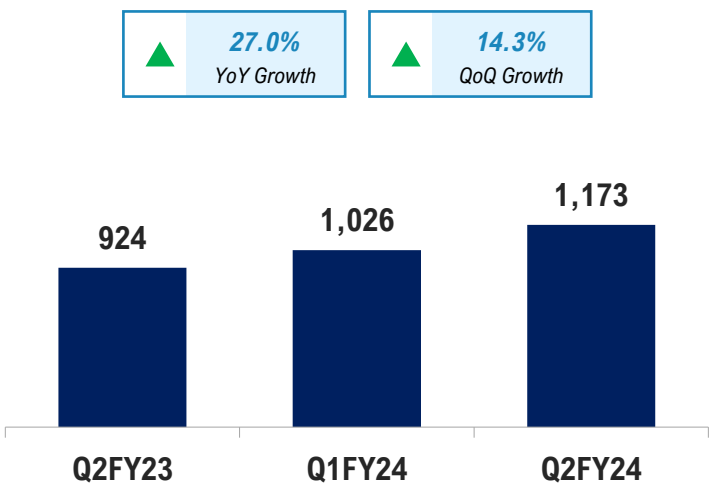
PAT (₹ Mn)



EBITDA (₹ Mn) and Margin (%)



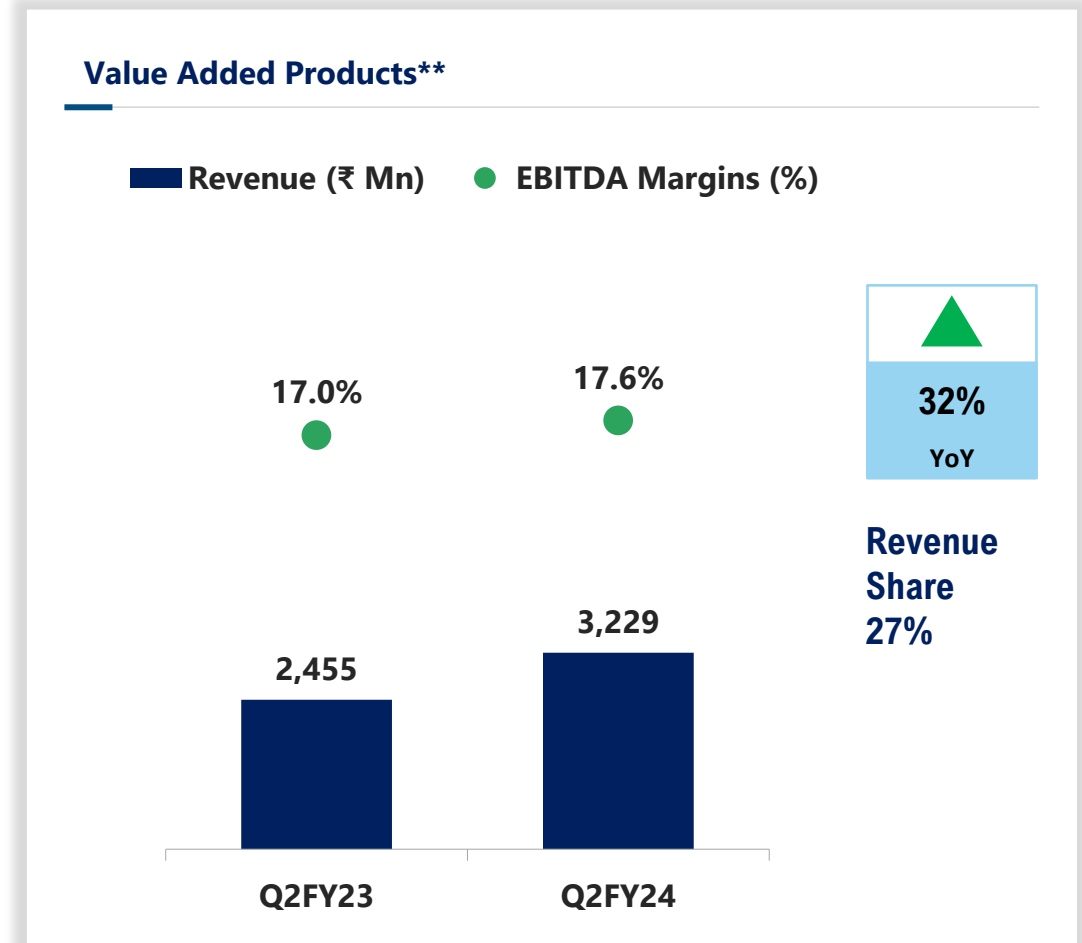
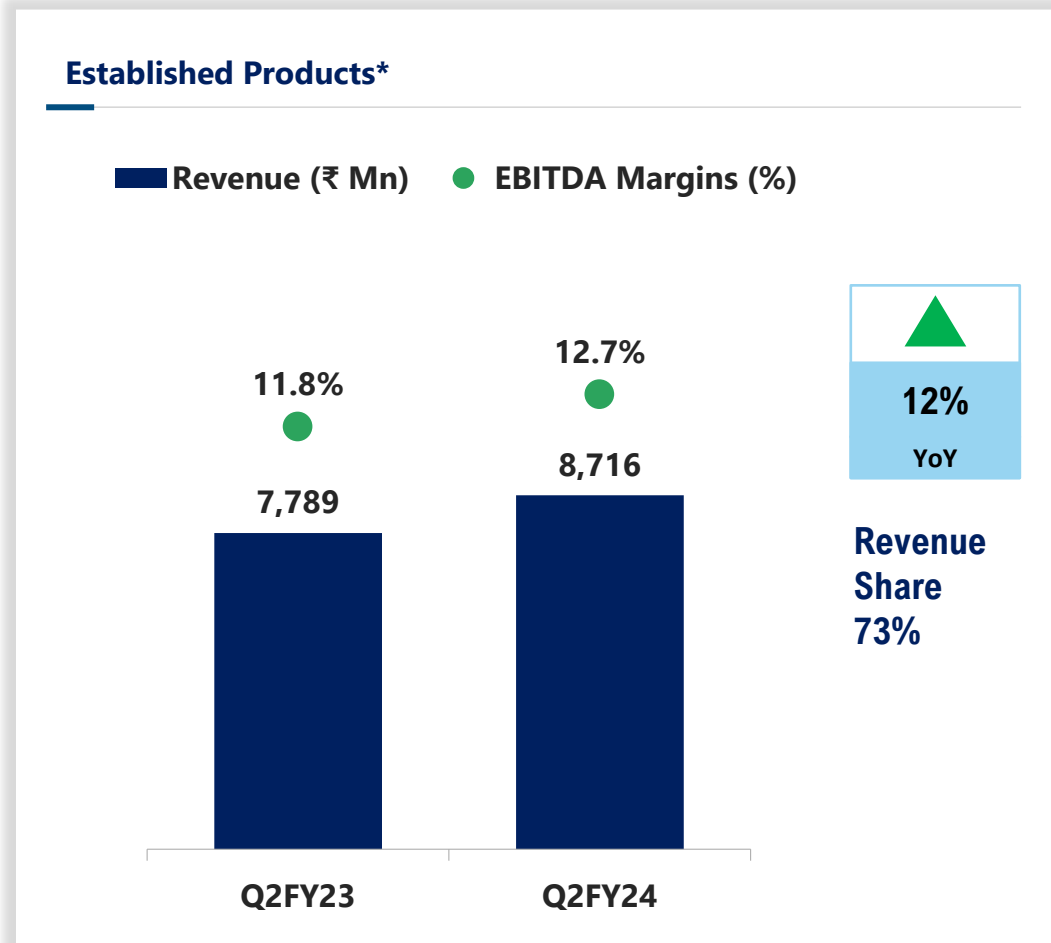
Cash Profit (₹ Mn)



Particulars	India	Overseas
Volume Growth (18% YoY)	19%	14%
Revenue Growth (17% YoY)	18%	13%
Revenue Contribution	66%	34%
EBITDA Margin	14.2%	13.5%
PAT Margin	5.5%	6.7%
Cash Profit Margin	9.6%	10.0%

- Value added products grew by 32% in Q2FY24 as compared to Q2FY23, while established products grew by 12%. The company's focus remains to increase the share of value added products in its revenue, improve margins and ROCE.

Strategic Direction towards Value Added Products (Q2 FY 24)



***Established Products-** HM-HDPE plastic Drums/Jerry Cans and Pails, Polyethylene (PE) pipes, Turf & Matting, Disposable Bins, Energy storage devices, Auto Products and Steel Drums.

****Value Added Products-** Intermediate Bulk Containers (IBC), Composite Cylinders (LPG & CNG) and MOX Films.

Consolidated Income Statement

Particulars (₹ Mn)	Q2FY24	Q2FY23	H1FY24	H1FY23	FY23
Total Income	11,945	10,244	22,748	19,695	42,932
Total Expenses	10,274	8,906	19,595	17,115	37,123
EBITDA	1,671	1,338	3,153	2,580	5,809
EBITDA Margin (%)	14.0%	13.1%	13.9%	13.1%	13.5%
Finance Cost (Net)	255	240	519	471	1,052
Depreciation	457	417	913	824	1,709
PBT	959	681	1,721	1,285	3,048
Tax	244	174	436	326	810
PAT before Minority Interest	715	507	1,285	959	2,238
Minority Interest	11	9	20	17	47
PAT after Minority Interest	704	498	1,265	942	2,191
PAT Margins (%)	5.9%	4.9%	5.6%	4.8%	5.1%
EPS (₹)	3.11	2.20	5.59	4.17	9.69

Consolidated Balance Sheet

Particulars (₹ Mn)	H1FY24	FY23	Particulars (₹ Mn)	H1FY24	FY23
Equity & Liabilities			ASSETS		
Shareholder's Funds					
Share Capital	226	226			
Other Equity	23,435	22,467			
Total Shareholder's Fund	23,661	22,693	Non-Current Assets		
Minority Interest	602	582	Fixed Assets		
Non-Current Liabilities			Property, Plant & Equipment	13,113	12,989
Long-Term Borrowings	2,222	2,455	Capital Work-in-Progress	693	676
Lease Liabilities	801	811	Right-to-Use Assets	777	837
Deferred Tax Liabilities (Net)	1,058	1,012	Intangible Assets	1	1
Total Non Current Liabilities	4,081	4,278	Investments	15	-
Current Liabilities			Others Financial Assets	345	343
Short-Term Borrowings	5,540	5,647	Total Non Current Assets	14,944	14,846
Trade Payables	4,311	4,060	Current Assets		
Lease Liabilities	90	90	Inventories	10,269	9,951
Other Financial Liabilities	6	6	Trade Receivables	9,741	9,430
Other Current Liabilities	412	406	Cash and Cash Equivalents & Bank Balance	1,157	1,014
Short-Term Provisions	150	150	Other Current Assets	2,750	2,644
Current Tax Liabilities	285	381	Total Current Assets	23,916	23,039
Total Current Liabilities	10,794	10,740	Assets Classified As Held For Sale*	277	408
TOTAL - EQUITY AND LIABILITIES	39,138	38,293	TOTAL - ASSETS	39,138	38,293

*In accordance with Ind AS 105 for Non-current Assets Held for Sale and Discontinued Operations, the management has identified and classified certain assets as held for sale

Consolidated Cash Flow

Particulars (₹ Mn)	H1FY24	FY23
Net cash flow from operating activities	1,959	3,702
Profit before tax & extraordinary items	1,722	3,048
Depreciation	912	1,709
Interest	519	1,052
Others	24	55
Working Capital Changes	(825)	(1,506)
Tax Payment	(394)	(656)
Net cash used in Investing Activities	(893)	(2,155)
Purchase of fixed assets	(998)	(2,246)
Purchase of Investments	(15)	-
Others	120	91
Net cash used in financing activities	(932)	(1,539)
Net proceeds from borrowings	(340)	(151)
Repayment of lease liability	(61)	(102)
Dividend paid & tax on dividend	(12)	(234)
Interest paid	(519)	(1,052)
Net increase/(decrease) in cash & cash equivalents	133	8
Cash & cash equivalents as at (opening balance)	693	685
Cash & cash equivalents as at (closing balance)	826	693

Product Segment Wise Value and Volume Numbers

Particulars	Value			Volume			
	FY23	FY22	YoY Growth	Unit	FY23	FY22	YoY Growth
	(₹ Mn)	(₹ Mn)	%				%
TURNOVER							
REGULAR BUSINESS							
Packaging (Excl. IBC Business), Lifestyle , Auto , Batteries Business etc.	31,164	27,075	15.1%	M.T.	250,025	226,270	
PE Pipes	2,046	1,889	8.3%	M.T.	20,755	19,304	
Sub - Total	33,210	28,964	14.7%		270,780	245,574	10.3%
VALUE ADDED PRODUCTS							
IBC Business	5,017	4,097	22.5%	Nos.	627,339	532,449	
Composite Cylinders (LPG and CNG)*	3,457	2,310	49.7%	Nos.	978,912	921,254	
MOX Film	1,249	1,157	7.9%	M.T.	5,154	4,833	
Sub - Total	9,722	7,564	28.5%				24.4%
Total	42,932	36,528	17.5%				12.6%

*Includes business from CNG cylinders of Rs. 1539 Mn (P.Y. Rs. 557 Mn)



Except for the historical information contained herein, statements in this presentation and the subsequent discussions, which include words or phrases such as "will", "aim", "will likely result", "would", "believe", "may", "expect", "will continue", "anticipate", "estimate", "intend", "plan", "contemplate", seek to", "future", "objective", "goal", "likely", "project", "should", "potential", "will pursue", and similar expressions of such expressions may constitute "forward-looking statements". These forward looking statements involve a number of risks, uncertainties and other factors that could cause actual results to differ materially from those suggested by the forward-looking statements. These risks and uncertainties include, but are not limited to our ability to successfully implement our strategy, our growth and expansion plans, obtain regulatory approvals, our provisioning policies, technological changes, investment and business income, cash flow projections, our exposure to market risks as well as other risks. The Company does not undertake any obligation to update forward-looking statements to reflect events or circumstances after the date thereof.





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Commercial Benefits – Type I vs Type IV

Sr. No	Parameter	Steel Cylinder Type I Cascade	Composite Cylinder Type IV Cascade	Remarks
1	Size	75 Litre	156 Litre	
2	Number of Cylinders/Cascade	60 Nos	60 Nos	
3	Total CNG Carrying Capacity (Water Litre Capacity)	4,500 WLC	9,360 WLC	
4	Indicative Cost of Cascade (Rs)	23.00 Lakhs	82.00 lakhs	
5	Cost of Vehicle (Rs)	20.00 Lakhs	20.00 Lakhs	
6	Capex per Cascade with vehicle (Rs)	43.00 Lakhs	102.00 Lakhs	
7	Capex required for carrying 9000 WLC CNG (including vehicle)	43.00 X 2 = 86.00 Lakhs	102.00 Lakhs	Additional Capex 16.00 Lakhs



Commercial Benefits – Type I vs Type IV

Sr. No	Parameter	Steel Cylinder Type I Cascade	Composite Cylinder Type IV Cascade	Remarks
1	Distance Assumed	100 kms	100 kms	
2	Running Cost (Rs/km)	32	30	Type I Cascade Wt: 9702 X 2 = 19404 kg Type IV Cascade Wt: 5820 kg
3	Cost of Running 100 kms (Rs)	3200 X 2 = 6,400	3,000	
4	Running cost (Rs/Litre/100 km)	0.71 per Litre per 100 km	0.32	
5	Total CNG carried per trip (Litres)	9000	9360	
6	Number of Trips per month (per fill station)	52	52	
7	Cost required for transporting 9000 WLC CNG (Rs)	6,400	2,884	55% Savings of Rs 3,516 per 9000 Ltrs
8	Saving per 9000 WLC CNG transportation (Rs)		3,516	
9	Monthly transportation Cost 52 trips (Rs)	3.32 Lakhs	1.50 Lakhs	
10	Monthly savings per 9000 Ltrs (Rs)		1.82 Lakhs	



Commercial Benefits – Type I vs Type IV

Sr. No	Parameter	Payback period and Savings over 20 years
1	Additional Capex for 9000 Litre CNG transport (Rs)	16.00 Lakhs
2	Savings per month in 52 trips (Rs)	1.82 Lakhs
3	Payback period (for Rs 9.00 lakhs extra Capex)	Less than 9 months
4	Total Savings over a 20 year period (Rs)	437.00 Lakhs

* Additional Savings on Recertification charges

