

Case studies from industry in India: Reducing the plastic footprints of products and packaging

India-Norway Marine Pollution Initiative

Disclaimers

This version of the document is work in progress. The case studies presented in this document are solely contributed by the respective industries and do not reflect the views or policies of the Ministry of Environment, Forest and Climate Change, Government of India, Embassy of Norway and the United Nations Environment Programme (UNEP). References to specific commercial products, companies, services, or manufacturers do not necessarily imply endorsement, recommendation, or favouritism. Mention of a commercial company or product in this report does not imply endorsement by UNEP.

Acknowledgement:

We sincerely thank industry contributors to the case studies, and the Ministry of Environment, Forest and Climate Change of India and the Embassy of Norway to India in New Delhi for their support to the India Norway Marine Pollution Initiative.

Table of Contents

Background	4
1. Size optimization to reduce packaging material in the milk industry	6
2. Use of alternative recycled material for protective packaging in the textile retail industry	8
3. Transition from EPS to Honeycomb for packaging purposes in a consumer goods company.....	9
4. Use of mechanical PCR-based Laminate for charcoal packing.....	11
5. Circular packaging in hair oils, fabric care products, and shrink bundling operations in a consumer goods company	12
6. Weight optimization and use of recycled material in hygiene & health industry .	13
7. Transition to recycled polymers by travel luggage sale company	16
8. Developing post-consumer recycled (PCR) films by PET recycling.....	17
9. Use of certified recycled material in the travel gear industry	19
10. Recycling plastic waste generated by restaurant partners by online food delivery company.....	20
11. Embedded sustainable packaging product design enhancements in a consumer product company	21
12. Use of mono material in the food and beverage industry	22

List of Abbreviations

- ABS – Acrylonitrile Butadiene Styrene
- B2C – Business-to-Consumer
- GCMMF – Gujarat Cooperative Milk Marketing Federation Ltd.
- GRS – Global Recycled Standard
- HDPE – High-Density Polyethylene
- LCA – Life Cycle Assessment
- LDPE – Low-Density Polyethylene
- LLDPE – Linear Low-Density Polyethylene
- METPE – Metallized Polyethylene
- METPET – Metallized Polyethylene Terephthalate
- MLP – Multi-Layered Packaging
- PC – Polycarbonate
- PCR – Post-Consumer Recyclate
- PET – Polyethylene Terephthalate
- PP – Polypropylene
- PS – Polystyrene
- rHDPE – Recycled High-density Polyethylene
- rPET – Recycled Polyethylene Terephthalate
- RCS – Recycled Claim Standard

Background

Control of plastic pollution and its impact on marine and terrestrial ecosystems is an important focus area for UNEP. This aligns with the vision of the Honourable Prime Minister of India, who during the World Environment Day 2018, committed to phasing out single use plastics by 2022 and also signed UNEP's Global Clean Seas Campaign. UNEP's approach on the issue is a mix of science and evidence generation to support policy, awareness creation and action on the ground through engagement of communities and change makers.

The Governments of India and Norway have signed an MoU to cooperate on oceans and a blue economy. Under this, the 'India-Norway Marine Pollution Initiative' aims to strengthen approaches to tackle and prevent pollution from land-based and offshore activities, in line with SDG 14. UNEP is supporting the Government of India, on developing policy and institutional frameworks and engaging globally on this issue. Under the initiative, UNEP is working with Ministry of Environment Forests and Climate Change (MoEFCC), Government of India to provide scientific studies, policy briefs, capacity building and awareness generation support to reduce plastic pollution in India. UNEP has compiled and documented the case studies on various initiatives taken in India in this regard. This report is also a compilation of case studies from industries in India on reducing plastic footprint from products and packaging.

Taking cognizance of the diverse roles and responsibilities of industries can serve as a key enabler in bringing the change and solutions for control of plastic pollution, UNEP requested and compiled case studies from various industries which have taken initiatives for control of their plastic footprint. The documentation was carried out based on the case studies submitted by the industries on innovations achieved to reduce product plastic footprint; developing cost effective sustainable packaging, use of recycled material or substitutes for products to replace or reduce plastic packaging; successful packaging redesigns, rethinking of their delivery chains, and circular delivery models such as refill or reuse; etc. The subsequent chapter provides the details of the case studies submitted by the industries showcasing concrete actions for reducing plastic footprint.

A total of 40 companies were contacted in this first phase of the compilation to ensure a representative and manageable sample based on available information, stakeholder responsiveness, and sectoral spread. Based on review of literature, companies were chosen to reflect diversity across the value chain, including brands, packaging material manufacturers, and service providers. The companies selected for this study represent a diverse yet strategically curated group of stakeholders across sectors with substantial packaging footprints and a demonstrated or potential interest in packaging innovation and plastic reduction. The three major criteria used for approaching the industries were:

1. High Packaging Footprint: Companies operating in sectors such as FMCG, food and beverage, personal care, and e-commerce were prioritized due to their intensive use of plastic packaging and the high potential for upstream interventions to achieve significant reductions.

2. Demonstrated Innovation or Leadership through secondary literature review: Companies were identified based on evidence of having initiated or expressed intent to explore packaging redesign, material substitution, or circular business models. These companies are positioned to offer replicable best practices and real-world lessons.
3. Operational Presence in India: Only companies with a substantial operational footprint or consumer base in India were included, to ensure the relevance of insights within the national policy and regulatory context.

The indicator which has been primarily used in reporting the impact of case studies is plastic footprint reduction which is here defined as the reduction achieved by a company in the virgin plastics consumption in a year (MT/yr).

Based on responses received from the industries, 12 case-studies have been documented. In future, this compilation will be expanded with a greater number of case studies based on new knowledge, emerging insights, thematic gaps, and sectoral under-representation identified in this first phase.

1. Size optimization to reduce packaging material in the milk industry

By Amul India Ltd

Gujarat Cooperative Milk Marketing Federation Ltd. (GCMMF) is an apex organization of 18 affiliated district member milk unions. The head office is located in Anand city of Gujarat. GCMMF Ltd. undertakes marketing of milk, milk products and other products under Amul brand through 87 sales offices in India and export to more than 50 countries. The range of products marketed includes pouch milk, UHT (Ultra-High Temperature) milk, butter, cheese, curd, buttermilk, cottage cheese, chocolate, ice cream, condensed milk, powders etc. These products are processed and packed in all types of packaging like paper, tin, glass and different types of plastic i.e. PP, LDPE, HDPE, PS, MLP etc.

Initiative taken

GCMMF has its own milk pouch packaging film production plant. With value engineering / standardization at their end, they are able to reduce the quantities of plastics used for packaging. With their designing innovations, they have been able to reduce the bag length of pouches. The bag lengths have been reduced by 2-4% for 500 ml to 1000 ml packs. This has led to considerable savings on the plastics footprint.

In addition, they have been able to reduce the pack weight of caps/PET (in products like flavoured milk). Using lesser plastic in each cap, has led to a reduction in weight of caps by 3.7 to 18.5% This has resulted in significant savings in the plastics footprint. Amul claims that no major investments have been made in implementing such changes in poly film size, PET preform and PET caps. The product wise savings on plastics are presented in Table 1 below.

Table 1 Product-wise virgin plastics savings achieved

Particulars	Specifications (length/weight)			Plastics saved Qty. (MT)
	Earlier	Current	% Savings	
Milk Pouch 1 Litre	240 mm	230 mm	4	100
Milk Pouch 500 ml	156 mm	153 mm	2	200
Aseptic Cap for Flavoured Milk (HD)	3.8 gm wt.	3.1 gm wt.	18.5	80
Aseptic preform for FM (PET)	13.5gm wt.	13.0 gm wt.	3.70	30
TOTAL (MT)				410

OLD



NEW

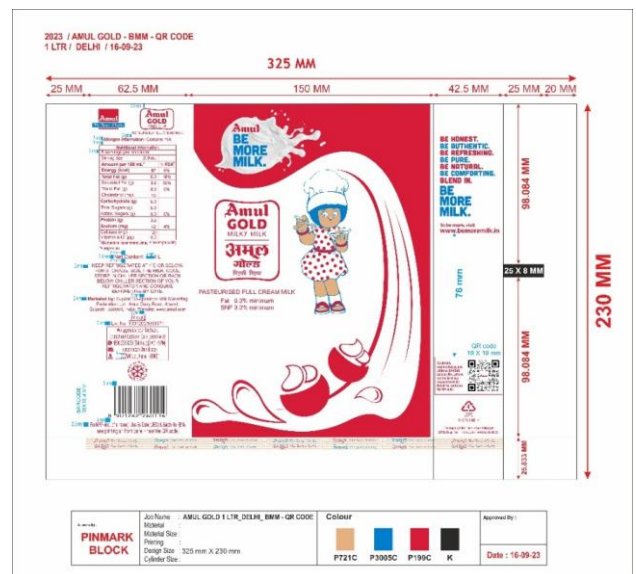
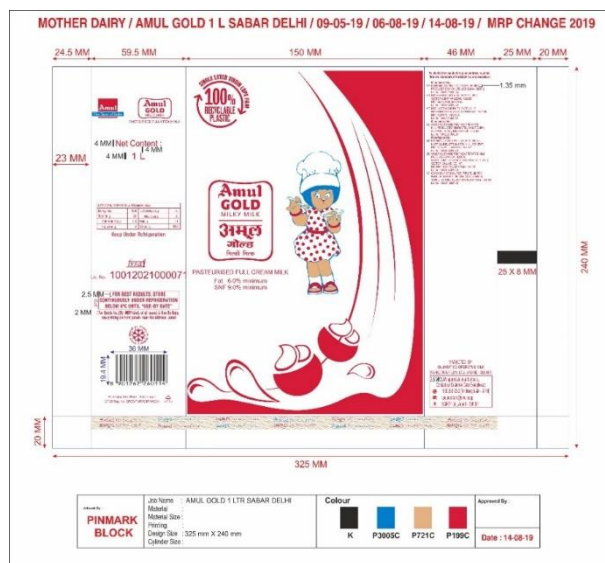


Figure 1 Size optimization to reduce packaging material in the milk pouches

Impact of the Initiative:

With value engineering / standardization at their end, Amul is able to reduce 410 MT of plastics in FY 2023-24.

2. Use of alternative recycled material for protective packaging in the textile retail industry

By Fabindia Limited

Fabindia is India's largest private platform for products (textiles and household soft furnishings) that are made from traditional techniques, skills and hand-based processes. Fabindia links thousands of craft based rural producers to modern urban markets, thereby creating a base for skilled rural employment.

Initiative taken

Fabindia has started using recycled cardboard protective packaging instead of plastic bubble wrap to reduce plastic waste. The traditional way of securing hard goods especially during transit by a plastic bubble wrap is replaced by protective packaging made out of used, shredded cardboard. It has received a strong positive response from the customers due to eco-friendly and sustainable appeal. The estimated annual expenditure of Fabindia on bubble wrap is stated to be INR 18 lakhs. The investments made for implementation of the case study included machine cost of approximately INR 2.5 lac per unit, and a maintenance cost of INR 15,000 per unit, annually. Evidently, the machines require low capital investments, low maintenance and have resulted in significant savings. Given that the machine lifespan is 5 years, this can eliminate the expenditure on plastic bubble wrap cost for this duration by about INR 90 lakhs. This has resulted into an approximately INR 85 lakhs saving, while factoring in initial investment and annual maintenance cost. Fabindia has put this initiative in use for the last 5 years i.e. since 2020 and has implemented this in their warehouse located in Jaipur, Rajasthan. This is stated to be an environmentally friendly and cost-effective solution contributing towards reducing the plastics footprint of the company. For replacing the plastics bubble wraps, Fabindia uses the same carboards in which the products are sent from its supplier network pan-India to its Jaipur warehouse.



Figure 2 Protective packaging made from used and shredded cardboard

Impact of the Initiative:

- Impact: Quantity of Plastic footprint reduced/curbed (Rolls/Year): 800 bubble wrap rolls on an average reduces the plastic footprint by approximately 4.8 tons per year.

3. Transition from EPS to Honeycomb for packaging purposes in a consumer goods company

By Godrej

Since 1897, the Godrej Enterprises Group (which includes Godrej & Boyce and its affiliates) has led to innovations like the world's first patented springless locks and 'made-in-India' solutions for safes, typewriters, refrigerators and almirahs.

Initiative taken

Godrej has taken a packaging initiative by transitioning from expanded polystyrene (EPS) to honeycomb for packaging of its items. The concern with EPS is that it is non-biodegradable and contributes to landfill waste and environmental pollution. The work on this initiative started off on 1st June, 2022 when they identified the suppliers for development and discussed the requirements. With joint efforts, the honeycomb packaging was designed. Rigorous quality tests were carried out before finalizing the ultimate solution. Subsequent trials and process streamlining was done for establishing packaging on assembly lines. The company has taken up activities like development of suppliers for honeycomb packaging first time for appliances in India. The suppliers were made to establish their manufacturing facility in close proximity to reduce not only transportation cost, but the subsequent carbon emission as well.





Figure 3 Transition from EPS to Honeycomb

Impact of the initiative:

The company makes a replacement of over 480 MT of EPS with honeycomb packaging annually (FY 2023-2024).

4. Use of mechanical PCR-based Laminate for charcoal packing

By Huhtamaki India Ltd.

Huhtamaki India Ltd. (HIL), a leading consumer packaging company, is known for its efforts in flexible packaging since 1935. Huhtamaki India Ltd. (HIL) is one of India's manufacturers of primary consumer packaging and labelling materials.

Initiative taken

Huhtamaki India Ltd. has taken an initiative to use mechanical PCR-based laminate for charcoal packing. This project focuses on developing a laminate using PCR content in both PET and PE layers.

Structure: 12 μ PET (70% PCR) / 120 μ PE (30% PCR).

The laminate retains the required mechanical strength, printability, and sealability, while reducing reliance on virgin plastics. The use of mechanical PCR helps address plastic waste concerns while maintaining compliance with packaging safety regulations.



Figure 4 Mechanical PCR-based laminate for charcoal packing

Impact of the initiative

On avoidance of virgin PET & Virgin PE in the laminate, Huhtamaki India Ltd. has claimed to save 40.13MT virgin plastic as on 2024

5. Circular packaging in hair oils, fabric care products, and shrink bundling operations in a consumer goods company

By Marico limited

Marico Limited is an Indian multinational company in the consumer goods sector, primarily engaged in the beauty and wellness industry. Headquartered in Mumbai, Marico operates in the FMCG sector in core categories including hair care, skincare, edible oils, health foods, male grooming, and fabric care. As a fast-moving consumer goods (FMCG) company, Marico is a significant user of plastic for its packaging requirements for durability, hygiene, lightweight transportation, and consumer convenience.

About the initiative

This case study focuses on the use of recycled plastic content in Marico's packaging for two key product categories—hair oils and fabric care liquids. These products are mass-market offerings and are packaged primarily in PET & HDPE bottles, which are now being transitioned to include post-consumer recycled (PCR) content as part of Marico's sustainability efforts.

In the hair oils and fabric care category, their initiative covers a diverse portfolio of products. The PET & HDPE bottles for these products are now being produced with a defined percentage of recycled PET & HDPE, showcasing Marico's commitment to circular economy principles and sustainable plastic packaging, and also aligning with India's Extended Producer Responsibility (EPR) guidelines (for which targets for use of recycled content are applicable from 2025-26).

Additionally, the initiative includes the use of PCR-based shrink bundling films for secondary packaging of hair oil bottles. These films, made from recycled LDPE, are used for grouping/bundling and transporting multiple units efficiently.

In 2023, Marico initiated trials and commercialization of PET bottles & HDPE bottles containing 25% to 50% Post-Consumer Recycled (PCR) PET. These bottles were validated for visual clarity, mechanical strength, barrier properties, and food-contact safety as per The Food Safety and Standards Authority of India (FSSAI) and Central Pollution Control Board (CPCB) norms. In parallel, for secondary packaging, Marico partnered with Dow chemicals, Lucro Plastics to develop shrink bundling films containing 50% PCR LDPE. These films are now being used across bundling lines for various hair oil SKUs.

Impact of the Initiative:

- ~650 metric tonnes/year of virgin PET displaced by PCR PET & HDPE in bottles.
- ~250 metric tonnes/year of virgin LDPE displaced through PCR-based shrink bundling films.
- Total: 900 MT/year virgin plastic reduction.

6. Weight optimization and use of recycled material in hygiene & health industry

By Reckitt Benckiser India Pvt. Ltd.

Reckitt organises majority of its products into three main categories – hygiene & health. The company produces household, laundry, toiletry, pharmaceutical and food products such as, air freshener, bathroom cleaners, laundry detergents, skin and OTC

The plastic footprint primarily consists of rigid plastics, and flexible plastics, however, paper, paper board, metal and glass are also used. Rigid plastic bottles, used for various products such as bathroom cleaners and toiletries constitute the largest portion. The case study below captures work carried out by Reckitt on rigid and flexible packaging by reducing the amount of virgin plastics used.

Initiatives taken

- **Innovations to reduce the virgin plastic packaging consumption with design optimisation**

The company had a target of reducing use of virgin plastic in packaging by 50% by 2030 compared to 2020. In 2023-24, a reduction of ~4%¹ has been achieved in the amount of plastic used by packaging design simplification & technological interventions. In 2024, Reckitt India launched a 100 ml liquid handwash on-the-go pack, which features with a flip-top cap moving over the older pack with complex dispensing mechanism leading to saving of approximately 15%** of plastic material in the pack through design simplification.

Through evolving material processing technology in extrusion blow moulding, toilet cleaner bottle of 200 ml was re-launched with 10%¹ reduction in bottle weight.

Similarly, a pack of medicated lozenges was relaunched in a contemporary blister pack format, wherein blister packs are distributed to retailers in a PET jar. The jar neck was redesigned to reduce the overall jar weight by ~18%.¹

Reckitt carried out weight optimisation for the Antiseptic Liquid Bottle through innovative techniques and achieved reduction in weights for these bottles in



Figure 5 Reductions in weight of plastics packaging used for various products

¹ Basis on production volume for 2023/2024

2023/2024 through new manufacturing technology of Injection Stretch Blow Moulding for bottle manufacturing. This resulted in ~15%² average reduction in bottle weights in comparison to originally running market packs.

- **Using recycled content in plastic packaging**

Reckitt uses post-consumer recycled (PCR) material to replace virgin plastic in packaging. Internal target for Reckitt is to have 25% recycled content in plastic packaging by 2025. While there are significant benefits in doing this, it is not without challenge, as recycled plastics are of lower quality and purity compared with virgin equivalents. This can potentially reduce the performance capabilities of packaging material and can also affect the colours used to represent the brands. To overcome these challenges, a strict testing and validation process was followed before introducing PCR into packaging. This was done to identify the optimum percentage blend of virgin and PCR materials. This ensures that the bottles are not only strong enough to survive the rigours of supply chain, but also that formulation does not react with the recycled material. In 2024, Reckitt achieved 25% PCR³ content by concentrating on key formats, such as bottles for the hand cleaner and toilet cleaner. They drove the PCR incorporation programme by working on different PCR materials like rHDPE, rPET & rPP across their range of products. Reckitt's toilet cleaner brand took significant steps to meet larger goal of replacing virgin plastic with recycled material. Toilet cleaner bottles began incorporating PCR and achieved replacement of approximately 40%⁴ of virgin plastic by focussing on

- a. Identifying and onboarding reliable PCR vendors
- b. Conducting initial tests on resins for quality assurance and product compatibility.
- c. Building stronger partnership with vendors to address persistent issues like shade consistency and supply reliability
- d. Cross functional coordination to validate PCR material on packaging lines as well as product compatibility studies.



Figure 6 Use of PCR in bottles for toilet cleaners and handwash

Another example was of their hand wash bottles with PCR content. The bottle being white in colour there were lot of challenges to maintain the same appearance of the bottle. To overcome these, cross functional teams worked towards replacement of approximately 250MT³ of Virgin Plastic with PCR by:

- a. Developing suitable masterbatch to arrest the issues of off white/ pale white shade in bottles.

² vs originally running market pack

³ Basis on production volume for 2023/2024 only of rigid plastic used.

⁴ Full year Delivery

- b. Partnering with suppliers to procure high quality PCR plastic that met consistent shade.
- c. Conducting rigorous testing to ensure durability, safety and compatibility with liquid handwash formula.

Impact of the initiative

- In 2023-24, a reduction of ~4%⁵ has been achieved in the amount of plastic used by packaging design simplification & technological interventions
- Hand wash bottles have achieved a replacement of approximately **250MT**⁵ of virgin plastic with PCR.
- Toilet cleaner bottles began incorporating PCR & achieved replacement of approximately **2800MT**⁵ of virgin plastic

⁵ Basis on production volume for 2023/24 , full year delivery

7. Transition to recycled polymers by travel luggage sale company

By Samsonite

Samsonite South Asia Pvt. Ltd. is a company engaged in the manufacturing, distribution, and sales of premium luggage and travel accessories. Established in 1996, the company is offering travel luggage solutions. Samsonite specializes in hard luggage, utilizing plastic materials such as Polypropylene, Polycarbonate, and Acrylonitrile Butadiene Styrene,(ABS) to craft its products. These materials are chosen for their lightweight properties, impact resistance, and long-lasting performance.

Initiatives taken

With an increasing emphasis on sustainability and environmental responsibility, Samsonite has used recycled polymers/materials in their products and across multiple components of their travel bags. This case study focuses on incorporating use of recycled polymers in their luggage products. By transitioning to recycled plastics, Samsonite South Asia Pvt. Ltd. is working towards reducing dependency on virgin plastics and minimizing plastic waste accumulation. Availability and supply challenges lead to cost fluctuations of the components. They state that the cost of rPET fabric is approximately cc due to non-availability of good quality of feed stock and need for adding a special additive to avoid deterioration of property. By using recycled polymers, and other materials, they substituted virgin material with recycled polymers as well as alternate materials in the following proportions across our product lines.

- Polypropylene (PP) – 1~5% substitution.
- Polycarbonate (PC) – 20~40% substitution.
- Acrylonitrile Butadiene Styrene (ABS) – 20~40% substitution.
- REPT fabric for interiors in luggage – 25~50% substitution.
- Recycled Material in Polybags for packaging – 1~5% substitution.
- Recycled Paper for Corrugated Packaging – 100% substitution.

Impact

Samsonite after implementation of these initiatives have reduced 1.27% PP, 30.56% PC, 27.24% ABS, 2.24% Polybag of our total consumption figure in 2024.

8. Developing post-consumer recycled (PCR) films by PET recycling

By Uflex Limited

UFlex is a provider of flexible packaging materials & solutions and has evolved into an organization with presence across all verticals of the packaging value chain – Flexible Packaging, Packaging Films, Aseptic Liquid Packaging, Holography, Cylinders, Engineering and Chemicals. Headquartered in Noida in India, UFlex has manufacturing facilities for packaging across various key cities in India with a cumulative production capacity of 1,35,000 TPA. Its global packaging films subsidiary Flex Films has plants in multiple locations globally - UAE, Mexico, India, Egypt, USA, Poland, Russia & Hungary – at a cumulative production capacity of 4,65,000 TPA.

Initiative taken

Uflex developed Asclepius™- PCR films made from PCR PET (up to 90%): The production of Asclepius films began in 2017 and are currently being used in India. Asclepius™ films are designed for various applications, including packaging and labelling, and provide an alternative to traditional plastic films. These films offer a 75%⁶ reduction in carbon footprint compared to virgin BOPET grades, while maintaining the same performance attributes as their conventional counterparts. Asclepius™ has been recognized with the ‘Kingfisher’ Certification from SCS Global Services, affirming the film’s integrity and its contribution to a sustainable future. Table 2 below shows the life cycle analysis (LCA) evaluation⁷ of PCR-based BOPET materials.



Figure 7 PCR pouches

Table 2: LCA based evaluation of PCR based BOPET materials.

S. No.	Film resin source	CO ₂ generated KgCO ₂ e (per Kg)	Electricity needed (KW)
1	Virgin PET	2.8	10.2
2	10% virgin PET + 90% PCR resin	1.0	3.3

UFlex also took initiatives of product down-gauging to reduce plastic consumption. UFlex worked on their Noodles Packaging and developed a thin gauge extrusion 2.5-3.0 GSM in lieu

⁶ <https://packagingsouthasia.com/packaging-production/flexfilms-asclepius-certified-90-pcr-content-bopet-films/>

⁷ <https://packagingsouthasia.com/packaging-production/flexfilms-asclepius-certified-90-pcr-content-bopet-films/>

of existing 7-8 GSM for MEM (Masala-E-Magic). This led to 30-35% lower extrusion thickness and, maintaining similar barrier & other functional properties.



Figure 8 Product down gauging for noodles and shampoo sachet packets

By reducing the material usage from 8 GSM to 2.5 GSM, a significant decrease in plastic consumption is achieved. This optimization not only leads to cost savings but also contributes to plastic footprint reduction by minimizing plastic use and later waste generation. In a similar initiative, shampoo sachets have been reconstituted by replacement of metallized PET (METPET) by METPE and lowering the overall thickness of the laminate structure. This is attained with retaining similar barrier and other functional properties. By changing the packaging structure from 10 PET / 10 METPET / 30 PE to 8 PET / 8 Ext-PE / 25 METPET, the overall material thickness is reduced from 50 microns to 41 microns. This resulted in an 18% reduction in plastic thickness. Thus, the adjustment in material structure reduces the total plastic consumption, while maintaining the functionality of the packaging.

Impact of the Initiative:

Noodle packaging redesigning led to reduction of 90 MT of plastic, given a total production quantity of 1100 MT. For a total production of 1500 tons of shampoo sachets, the initiative led to 18% reduction corresponding to 270 MT of plastic being reduced.

9. Use of certified recycled material in the travel gear industry

By Uppercase

Uppercase is a travel gear brand which entered the travel gear space a few years back. In a category, that has traditionally seen an inordinately high amount of plastic being consumed among other adverse environmental effects on the planet, uppercase came up with a new-age luggage which is more environment friendly. Armed with a GRS and RCS-certified (Global Recycled Standard and Recycled Claim Standard) ecosystem, uppercase is India's first certified travel gear brand. Talking of style, uppercase's second breakthrough is in design. In 2024, uppercase was chosen for the prestigious Red Dot Design Award for its bullet hard trolley.

Initiative taken

Uppercase is working towards transforming travel gear with the use of Certified Recycled Materials". Uppercase is trying to redefine eco-conscious innovation by embedding sustainability in their products. Uppercase's hard luggage range is crafted using RCS-certified recycled materials, guaranteeing the use of recycled content while maintaining a focus on product durability and performance. By adhering to RCS standards, uppercase tracks the recycled content through the supply chain. For other categories like soft luggage, backpacks, duffle bags, and messenger bags, uppercase goes a step further with GRS certification. This ensures the use of recycled materials and incorporates responsible social and environmental practices in the manufacturing process. This dual focus on recycled content and ethical production amplifies their commitment to reducing the carbon footprint of their products. Uppercase partner with certified suppliers, ensuring full traceability, ethical production, and a reduced carbon footprint. This allows them to maintain strict quality control, innovate with more environment friendly materials, and ensure responsible manufacturing at every stage.

Impact of the Initiative:

During the period Jan – Dec 2024, their initiatives have resulted into

- ✓ 140,923 equivalents Kgs of CO2 Saved
- ✓ 31,154 equivalent Liters of oil conserved
- ✓ 17.7 lakh equivalent plastic bottles recycled
- ✓ 6.12 lakh equivalent polycarbonate mobile cases recycled

10. Recycling plastic waste generated by restaurant partners by online food delivery company

By Zomato

Zomato is one of India's technology platforms that provides online food ordering and delivery services. As a business-to-consumer (B2C) technology platform, it provides customers with a seamless, on-demand solution to search and discover local restaurants, order food, and have it delivered reliably and quickly. Orders placed by customers are prepared by restaurants and fulfilled through a last-mile delivery fleet consisting of independent delivery partners. With a presence in over 800+⁸ cities pan-India, Zomato facilitates millions of food delivery orders every day.⁹

Initiatives taken

Zomato is committed to voluntarily recycling plastic waste equal to the amount restaurants use for packing food delivery orders, making every order placed via the Zomato app '100% plastic neutral.'

To achieve this, they have been working with government-authorized waste management agencies that collect plastic waste from homes and municipalities and recycle it under India's Plastic Waste Management rules. Since FY23, Zomato has voluntarily recycled 45,000 MT of plastic waste. This amount is equal to the volume of plastic waste generated by orders delivered through Zomato as per a detailed estimate conducted by an independent third party. Of the 45,000 MT¹⁰ of plastic waste recycled so far, 15,000 MT of plastic waste was recycled in FY25 alone. Since restaurant partners choose their packaging, this is a completely voluntary initiative on Zomato's part to mitigate plastic pollution.

Impact of the Initiative:

The initiative to date has diverted 45,000 MT¹¹ of plastic waste (15000 MT in FY25) away from landfills and oceans.

⁸ [Source: FY 25 Annual Report \(pg 01\)](#)

⁹ [Source: FY25 Annual Report \(Page - 04\)](#)

¹⁰ [Source: FY 25 Annual Report \(pg 32\)](#)

¹¹ [Source: FY 25 Annual Report \(pg 32\)](#)

11. Embedded sustainable packaging product design enhancements in a consumer product company

By Tata Consumer

Tata Consumer Products Limited (TCPL) is a focused consumer products company uniting the principal food and beverage interests of the Tata group under one umbrella. The company's portfolio of products includes tea, coffee, water, ready to drink (RTD), salt, pulses, spices, ready-to-cook and ready-to-eat offerings, breakfast cereals, snacks and mini meals.

About the initiative:

As of FY 2024, TCPL achieved 62%¹² of recyclable packaging criteria. In addition, TCPL has worked on product design enhancements and Innovative designs have been implemented to minimize the use of plastic while maintaining packaging integrity and product quality. For instance, TCPL's tea and salt products now use lighter, more sustainable materials. TCPL states that the packaging innovations in the industry needs to be of food grade, and there is limited pool of options available for this purpose.

Impact of the Initiative:

TCPL has been successful in achieving 62% use of recyclable materials in packaging in FY 2024.

¹² Annual Report FY 2024

12. Use of mono material in the food and beverage industry

By Nestle India

Nestle in India was established in 1959. Currently Nestle India has manufacturing facilities at Moga (Punjab), Choladi (Tamil Nadu), Nanjangud (Karnataka), Samalkha (Haryana), Ponda (Goa), Bicholim (Goa), Pant Nagar (Uttarakhand), Tahliwal (Himachal Pradesh) and Sanand (Gujarat). Some of the products NESTLÉ India manufactures are coffee, noodles, chocolates, and milk products.

Initiative taken

Nestle has taken initiative to use recycled material and cutting down on virgin plastic for chocolates and coffee packaging and has reduced ~3500 MT of virgin plastic since 2021. Their initiatives include use of recycled content in secondary and tertiary packaging, downsizing the packaging, and eliminating outer packaging. After conducting the line and transit (OTR) trial for the relevant brand and achieving successful results, the development of rPET resin has taken place. The implementation of rPET resin has begun in their Chocolates and Confectionery category. Additionally, they have evaluated the compliance testing for rPET resin prior to the commercial production of jars. An investment of INR 5 lac has been made for blow mould development and incremental costs per unit product is estimated to be 8-10% as compared to virgin plastics.

In addition to this, Nestle has also moved towards the use of mono-material as part of their sustainable packaging journey. Recognizing the importance of responsible design, Nestle is transitioning its packaging to mono-material structures that are easy to recycle. Resin used before the intervention were PET/BOPP, Alum/PET, and PE (food contact). After intervention, the resins were changed to PP, PP/PE, PP/PE (food contact). The initiative is being implemented from 2019 in geographies including India. The main advantage of this initiative is that single polymer is easy to recycle and leads to better recycling efficiencies. Although the intervention is stated to be not fit for all food product types.



Figure 2 Monolayer packaging

Impact of the Initiative:

Overall achievement in virgin plastic reduction is 3500 MT. In the last two years Nestle has been able to achieve ~1800 MT reduction in virgin plastics. Initiatives include use of recycled content in secondary and tertiary packaging, downsizing the packaging and eliminating outer packaging.

Our ambition is to end plastic pollution through reduction, circulation, and collaboration

By Hindustan Unilever Limited

About the Company:

Hindustan Unilever Limited (HUL) has been in India for over 90 years and is a subsidiary of Unilever into food, home care, personal care, and refreshment products.

About the initiative:

This case study focuses on innovative solutions to redesign packaging by cutting down the use of virgin plastic and replacing it with post-consumer recycled (PCR) content. In collaboration with Banyan Nation, Unilever has achieved a significant milestone by incorporating PCR into bottles for the first time in India and since then have been expanding post-consumer recycled content (PCR) inclusion across the company's Brands.

As one of the early adopters, Unilever has integrated post-consumer recycled plastic (PCR) into packaged food products, such as the Kissan Squash bottle, following the recent r-PET regulation update. Unilever has pioneered using Post-Consumer Recycled (PCR) materials in flexible packaging, such as pouches, overwraps, and shrink-wraps. The company has further strengthened its commitment to sustainability by acquiring a stake in Lucro Plastecycle Private Limited, a firm specialising in recycled flexible plastics. These collaborative efforts represent key milestones in sustainable packaging, support the growth of Unilever's supply chain partners, and drive innovation within the industry. 25 of the company's brands, such as Vim Dishwash, Surf excel, Comfort, Vaseline, Dove, Sunsilk, and Lifebuoy, now utilise PCR materials in packaging.



Sometimes a complete rethink of how products are designed and packaged is the best way to reduce plastic. Unilever have resized sachets across the company's Hair and Home Care portfolio and developed a new slim cap design for Glow & Lovely tubes to reduce the use of virgin plastic.

Impact

More than 6% recycled plastic procured as a % of total plastic footprint in finished goods sold for year 2024-25. HUL has taken up other initiatives to impact and reduce the quantity of plastic packaging footprint.