



PLASTINDIA FOUNDATION®

ISO 9001-2015 certified

The apex body of major Associations, Organizations, and Institutions connected with Plastics in India to promote the growth of Indian Plastics Industry within India and across the world

www.plastindia.org





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Current situation of plastic waste collection and recycling

Since 2012 to 2021 Plastic Waste was recycled upto 70%:

1. Industrial Waste is 100% consumed and recycled.
2. Post Consumer Waste is close to 50% recycled.
3. Government of India and various states of India have implemented many sources of consumption of Post Consumer Waste: NHRAI (National Highway Roads Authority of India) , PWD (Public Works Department), State Road Projects, Indian Road Congress has introduced compulsory use of plastic waste .Indian Road Congress has introduced compulsory use of Plastic Waste (Post Consumer for NHRAI (**National** Highway Roads Authority of India) , PWD (Public Works Department), State Road Projects 8 to 10 percent
- 4 Plastic content in dumps is less the 5 percent
- 5 No of Recyclers in India 10000+ mostly unorganized and working with traditional recycling techniques

Total Present Capacity of Recycling

At present India generates

3.6 million metric tons of
Plastic Waste

INDIA Currently recycles
60% of total waste
produced.



SUPPLY CHAIN INNOVATIONS

Ethical & Traceable Supply Chain

Clean Economy, Green Jobs



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THE INDIA PLASTIC WASTE STORY

In India 2024, 220 million tonnes of plastic waste will be created. In 2024, nearly 70 million tons of plastic will end up in nature due to imbalance between the volumes of plastics consumed and the capacity to manage the plastic at the end of its life. Plastic waste has risen by 7.11% since 2021.

India's rank in the MWI (mismanaged plastic waste)has improved significantly since 2023,. India, which ranked fourth in MWI 2023 with 98.55 per cent of generated waste being mismanaged, has improved and is now at the 95th position.

Plastic consumption in the country is growing at nearly 10% every year, waste generation from plastic is growing at over 20% every year. India's plastic consumption growing at a compounded annual growth rate (CAGR) of 9.7%.



<https://www.weforum.org/agenda/2023/08/how-india-is-coming-up-with-innovative-solutions-to-tackle-waste/>

<https://swachhbharatmission.ddws.gov.in/sites/default/files/Technical-Notes/PWMtoolkit.pdf>



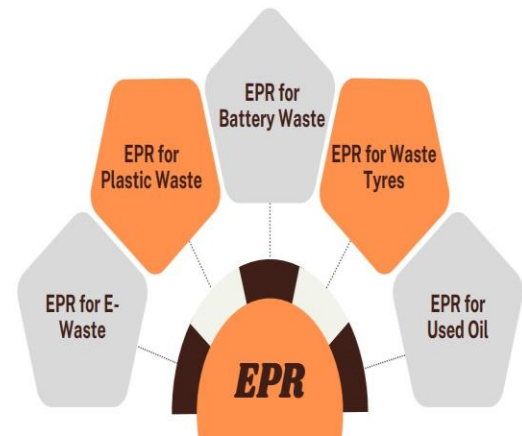
EPR targets

The EPR guidelines for plastic packaging were notified on February 16, 2022. These guidelines set mandatory targets for producers, importers, and brand owners to recycle, reuse, and use recycled plastic in their packaging. The EPR target for compostable plastic packaging is 100% from 2023-24.

Exemption for MSMEs

Micro, small, and medium enterprises (MSMEs) are exempt from EPR obligations. The manufacturers or importers who supply plastic raw materials to these MSMEs will be responsible for the exempted portion.

www.eprplastic.cpcb.gov.in



India has banned the manufacture, sale, distribution, stocking, import, and use of certain single-use plastics (SUP) since July 1, 2022:

Items banned

Includes cutlery, straws, sticks, thermocol for decoration, carry bags, and banners

Thickness regulations

Carry bags must be at least 120 microns thick, and banners must be at least 100 microns thick

Considerable progress since 2022 to 2024



ALTERNATIVES TO SINGLE USE PLASTICS IN INDIA

https://www.niti.gov.in/sites/default/files/2023-02/Plastics-Alternative-Study_Final_Report_compressed.pdf

Reusable packaging: Use reusable bags, containers, and boxes for fruits, vegetables, meat, fish, and cheese.

Refilling: Use refillable bottles and jars for oil, vinegar, and cleaning liquids.

Beeswax wraps: Use beeswax wraps instead of foil and cling film.

Natural textiles: Use cotton, wool, linen, and hemp instead of polyester and nylon

Bagasse: Use bagasse, which is made from sugarcane or beet pulp and is compostable and eco-friendly.

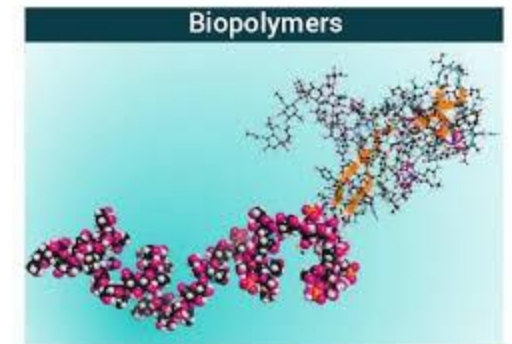
Bioplastics: Use plant-based plastics, which are primarily used in food packaging.



There is awareness on the potential of biodegradable plastics in India. India has started in first generation of oil based plastics that have starch to impart it with biodegradability

A Non-Profit Association of Professional Group of Manufacturers, Sellers and promoters of Environment Friendly Certified Compostable Biopolymers/Bioplastic materials and products under the banner of INDIAN COMPOSTABLE PLASTICS ASSOCIATION has been doing good work . ICPA is committed towards development and promotion of innovative and sustainable materials solutions as an alternative to non-biodegradable polymers.

Association of Compostable Products in India (ACPI) is a registered non-profit making association. It wants to enable people and society to benefit from sustainable and environmentally friendly products leaving no traces of harmful footprint behind when decompose.





In 2021, a Roadmap for Circular Economy for Plastics in India was developed by The Energy and Resources Institute (TERI) that entailed three key priority areas, namely adoption of sustainable material solutions, increase supply of good quality secondary plastics feedstock, and promote alternative uses of plastics

<https://www.teriin.org/sites/default/files/2021-12/Circular-Economy-Plastics-India-Roadmap.pdf>

The first step taken towards solving the plastic waste problem is addressing it **right at the inception**. **Design thinking for product life improvement** The design thinking process for product life improvement is a user-centric process. It involves redesigning plastic packaging to better its usage for consumers while making it more environment friendly. ways, one reduce plastic in the design stage by light weighting or by redesigning to reduce eliminable packaging components and two improve the design to extend the useful life of the product, reducing the waste going to the landfills.

Redesigning packaging for a lighter footprint

Steps are being taken by Indian companies and there have been results seen and being impemented



According to 6wresearch, India Biopolymer market size is projected to grow at a CAGR of 14.7% during 2024-2030F. India Biopolymers industry is expected to witness significant growth owing to the growing demand for bio-based and biodegradable bioplastic for packaging in the food and beverage sector. Moreover, the rising demand for alternatives to plastic-based fabrics in the textile sector is contributing towards the growth of the market. The growth of food processing sector (growing at a CAGR of 15.2% till 2025) and the textile and apparel sector (growing at a CAGR of 10% till 2025) in India which are looking for alternatives to traditional plastics are increasingly adopting bio-based and biodegradable bioplastics like PLA, PHA, Bio-PET etc

India Biopolymer Industry driven by strengthened government regulations on single-use plastic, along with increasing awareness among consumers about sustainability. This trend is anticipated to propel the demand for eco-friendly alternatives to plastic, such as bioplastics, in the coming years.

Market Segmentation by Region

In 2023, the South region held the majority of revenue share in the India biopolymers market, by region, on account of higher level of literacy and reverence for nature which is embedded in their cultural practices that boosted the uptake of biopolymers in this region.



The social cost of the plastics industry in India is estimated at **US\$62 - 96 billion** for the year 2023.

(The social cost includes the market price of plastic, emissions cost involved in the production process, and the mismanagement costs of plastic wastes.)

The present value of the social cost of continuing a business-as-usual structure in the plastics industry for the period 2025-2030 is **US\$541 billion**. The present value of the social cost of adopting a 100-percent circular plastic value chain by 2030 is estimated at **US\$370 billion**.

The net present value of benefits that will accrue by implementing 100-percent circularity by 2030 is **US\$170 billion**.

Report by OBSERVER RESEARCH FOUNDATION



To truly achieve plastic circularity, a holistic approach that encompasses product design, economic incentives, policy frameworks, and consumer education is essential. By designing products for longevity and reusability, we can reduce the need for single-use plastics.

By revolutionizing plastic circularity by chemically recycling typically unrecyclable plastic waste back into high-quality polymer feedstocks for new plastic production.”





What is the mission LiFE?

Mission LiFE seeks to translate the vision of LiFE into measurable impact. It is designed with the objective to mobilise at least one billion Indians and other global citizens to take individual and collective action for protecting and conserving the environment in the period 2022–28.

<https://missionlife-moefcc.nic.in/>



Government initiatives

The central government has allocated funds to create awareness and public participation in plastic waste management. The Swachh Bharat Mission-Urban (SBM-U) was launched in 2014 to scientifically process municipal solid waste. In 2019, the Ministry of Environment, Forest and Climate Change ran a three-phase campaign called “Swachhta Hi Sewa” and a beach cleaning drive.

Public awareness

These campaigns can include documentaries, school initiatives, and cleanup activities.

Private sector action

Many companies have implemented eco-friendly policies, such as using biodegradable packaging materials and setting up recycling facilities.

Non-governmental organizations (NGOs)

NGOs play a key role in raising awareness and mobilizing communities.

Circular plastics economy

India is working towards a circular plastics economy, which involves promoting recycling initiatives and stricter regulations



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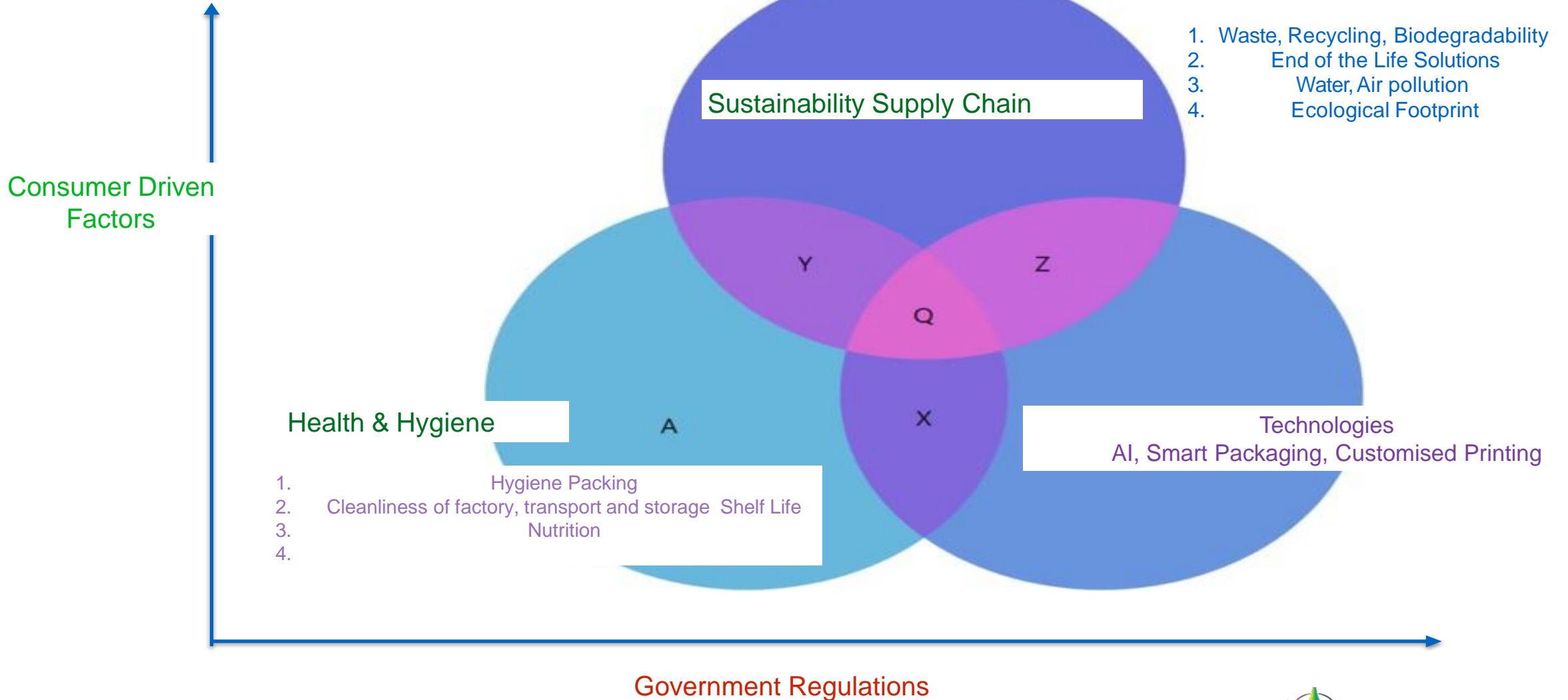
IN India training and set processes for the administration and facility management staff, general public, schools, hoardings, booklets is done quite well both by in person , online, by street plays, songs in many languages to adopt some of the best waste management practices There are tool kits available by Government of India -SWACCH BHARAT MISSION – SINCE 2014 THERE IS FOCUS ON PLASTIC WASTE MANAGEMENT



Convening partnerships in India's waste management sector is happening , shaped by a dynamic institutional framework. The Ministry of Environment, Forests & Climate Change sets rules, while the Ministry of Housing and Urban Affairs supports ground-level enforcement. This involves various stakeholders like recyclers, manufacturers, innovators, and consumers, highlighting the intricate web of collaborations necessary for effective waste management. Working in isolation is now being by working in tandem in such a multifaceted ecosystem.



The New Normal



Startups play a key role in recycling by developing new solutions to make the process more efficient and accessible
Recycling plastic

Startups are working on ways to break down plastic molecules without the need for additional equipment. Startups are converting waste materials like multilayered plastics into new products like furniture, dustbins, and flowerpots.

Incentivizing recycling

Startups are creating solutions that reward people for recycling their waste.



India has pledged to achieve net zero emissions by 2070. This means reducing greenhouse gas emissions to as close to zero as possible. To achieve this goal, India will need to decarbonize its energy and other carbon-intensive sectors. Some of the actions India is taking to achieve net zero include:

Green hydrogen

The National Green Hydrogen Mission aims to produce 5 million metric tons of green hydrogen annually by 2030. This will help India reduce its dependency on fossil fuel imports and transition to a low carbon economy.

Renewable energy

India aims to meet 50% of its electricity needs from renewable energy sources by 2030. In the last six years, India's renewable energy capacity has more than tripled.

Public awareness

India will work and encourage behavioral changes to support the transition to a low-carbon economy.

Collaboration

India will work with the private sector, civil society, and international partners to achieve its net zero goals.



India's plastic industry is expected to grow in the coming years, with a number of factors contributing to its expansion:

- **Government initiatives**

The government's "Make in India," "Skill India," "Swachh Bharat," and "Digital India" initiatives are increasing plastic production.

- **Demand**

Demand for plastic packaging for food and beverages has increased significantly due to the pandemic.

- **Technological innovation**

- **Chemical recycling to see growth in India**

The future of India's plastic recycling market looks promising, with the industry expected to grow significantly in the coming years:

In 2023, the market for recycling waste plastic in India was 9.9 million tons, and is projected to grow to 23.7 million tons by 2032.

The market is expected to grow at a compound annual growth rate (CAGR) of 9.86% between 2024 and 2032

Factors driving growth

The market is being driven by several factors, including:

Increasing use of recycled plastic in packaging

Government initiatives to promote recycling

Growing focus on sustainable lifestyles





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LET'S NOT BAN PLASTICS BUT IDENTIFY ITS POTENTIAL BENEFITS AND CREATE A
CIRCULAR ECONOMY AROUND IT.

PLASTICS IS ENVIRONMENTALLY FRIENDLY MATERIAL CURRENTLY ON THIS
PLANET.