

Development agenda for the new government

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Addressing Plastic Waste Pollution

A roadmap for optimal waste management and MLP waste recycling in India

India is embarking on a journey toward more sustainable waste management practices with the enforcement of new norms for plastic packaging. Beginning April 2024, a mandate stipulates that at least 30% of all plastic in packaging must be recycled, a figure set to increase to 60% by 2028. This shift necessitates a fundamental re-evaluation of how plastic waste is managed and recycled across the country.

Plastic, despite its comparatively lower carbon emissions, suffers from poor recyclability. Unlike aluminum and paper, which boast high recyclability rates, plastic often ends up as litter, causing extensive environmental damage. However, the solution lies in channelizing waste segregation and improving recycling processes.

In India, a very small amount of flexible plastic waste is collected, and the remaining stays in the environment. The primary obstacle to effective plastic waste management stems from the absence of source segregation and efficient collection methods. Landfill dumping persists due to the lack of waste segregation and the technological limitations faced by many Urban Bodies (ULBs). Consequently, Local the proliferation of littered plastic waste wreaks havoc on the environment, infiltrating aquatic contaminating ecosystems, drinking water sources, and degrading soil quality.



Mr. Ashok Chaturvedi, Chairman and Managing Director, UFlex Limited, at a trade show where UFlex exhibited household articles made out of MLP recycled waste

Unlike developed nations, India is still 15-20 years away from achieving optimal source segregation and efficient waste collection practices. Therefore, interim measures such as investing in artificial intelligence and machine learning technologies for the collection and segregation of MSW, along with widespread MLP waste recycling, and exploring biodegradable packaging alternatives, are imperative to address the challenge of uncollected waste.



UFlex's MLP recycling plant in Noida, Delhi-NCR, India

The Indian Government's phased implementation of Extended Producer Responsibility (EPR) guidelines represents a positive stride toward sustainable waste management. EPR mandates brand owners and producers to take responsibility for collecting, recycling, and reusing materials, fostering a circular economy ethos.

Difficult to recycle materials

Historically, multi-layer aseptic packaging was considered "non-recyclable" as the packaging structures are made of a mix of materials. Multi-layer aseptic packaging mostly ends up in landfills or is incinerated.

UFlex has invested in an advanced Enzymatic Delamination Technology to enable aseptic packaging recycling. Enzymatic delamination uses enzymes to break down the bonding between different layers of the packaging materials, allowing for the separation of individual layers such as paper and polyethylene/foil laminate which can be reused in the production of new products.

ADVERTORIAL

Recycling of MLP waste

UFlex was one of the first companies in the world, back in 1994, to establish recycling plants where multi-layer plastics (MLP), considered difficult to recycle, could be treated. Today, UFlex is recycling close to 30,000 MT of plastic waste annually, setting an example for the industry, the government, and the public.

UFlex recycles post-consumer MLP mixed plastic waste into granules; upcycles recycled resins into PCR (post-consumer recyclate) PET films; and partners with brand owners to create sustainable packaging solutions to reduce the use of virgin plastic at source. The goal of the company is to reach 1,00,000 tonnes of recycling by building additional recycling capacities across global locations.

Presently, a wide range of products, including decorative items, functional components, engineering parts, household goods, and office supplies, are being manufactured using recycled MLP granules at different UFlex recycling facilities in India, Mexico, and Poland.



Household goods manufactured from recycled MLP granules at UFlex's Noida facility



Mr. Anantshree Chaturvedi, Vice Chairman, Flex Films International; Mr. Apoorvshree Chaturvedi, Director - Global Operations, UFlex Group; and Mr. Jeevaraj Pillai, Director - Sustainability, UFlex Limited, at an AEPW Board Meeting in New York

The scale of India's plastic consumption of approximately 200,000 MT of flexible packaging material per month necessitates a substantial investment in recycling infrastructure. To recycle these quantities, we would need at least 2000 to 2500 mechanical recycling plants. Mechanical recycling plants, coupled with policies to incentivize entrepreneurship in waste management, are essential.

The road ahead requires a multifaceted approach, encompassing source segregation, technological innovation, and robust recycling infrastructure. By aligning industry practices with environmental stewardship, India can pave the way for a sustainable future, mitigating the adverse impact of plastic waste pollution while fostering economic growth.



UFlex's packaging films plant in Poland that houses an MLP recycling facility