

POLYNEXT CONFERENCE

THE FUTURE OF PLASTIC RECYCLING

VOLUME II



Transforming Waste: The
Business of Plastic
Recycling

Recycled Plastics,
Vibrant Possibilities

The Top Eco-Friendly
Trends of the Season

Event Dates:
01-02 Oct 2025

#polynextconf

*"The Future Of Plastic Recycling
and sustainable packaging"*

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This article presents well-researched insights, ensuring accuracy and clarity.

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EDITOR'S NOTE:

Dear Readers,

Welcome to the latest edition of PolyNext Insights, your gateway to the world of plastic recycling and sustainable packaging. In this issue, we explore the groundbreaking innovations transforming the future of plastics, from circular economy strategies to next-generation packaging solutions that reduce environmental impact.

Our pages feature insights from industry leaders, pioneering startups, and sustainability experts who are reshaping how we recycle, repurpose, and rethink plastic materials.

This edition also offers a preview of the upcoming PolyNext Conference & Awards, where many of these ideas will be explored in depth. Whether you're attending or following from afar, this magazine provides a glimpse into the key discussions, technologies, and trends driving sustainability in plastics and packaging.

At PolyNext, we believe that collaboration, innovation, and responsible practices are key to building a sustainable future for plastics. We hope this issue inspires you, challenges perspectives, and provides valuable insights as we work toward a greener, more circular economy.

Thank you for being part of our community of changemakers. Together, we're redefining the future of plastic recycling and sustainable packaging.

Happy reading!

Warm regards,
The PolyNext Team

CEO's Message



I am excited to introduce PolyNext Insights, a dedicated publication that highlights the latest advancements in plastic recycling, sustainable packaging, and circular economy solutions. As part of the PolyNext Conference & Awards, this platform reflects our commitment to driving innovation, fostering collaboration, and shaping the future of the plastics industry. Through expert insights, groundbreaking technologies, and industry-leading discussions, we aim to build a thriving global community focused on sustainability and material innovation.

PolyNext is more than just a publication—it's a thriving ecosystem. Anchored by our annual PolyNext Conference & Awards in Dubai, it extends across digital platforms and industry services, fostering a global community dedicated to plastic recycling, sustainable packaging, and circular economy solutions. Our mission is to connect industry leaders, innovators, and key stakeholders, creating a dynamic space for knowledge exchange, collaboration, and actionable change in the plastics industry.

In this rapidly evolving landscape, PolyNext serves as a guiding force in plastic recycling, sustainable packaging, and circular economy solutions. We bring you insights, success stories, and expert analyses that are shaping the future of the industry. Join us on this transformative journey as we drive innovation, collaboration, and sustainable progress. Welcome to PolyNext—where the future of plastics begins today.

Anas Jawed
Founder & CEO,
Next Business Media



Article I

Designing for Recyclability:

Creating Plastic Products for a Circular Economy

Key Principles of Recyclable Plastic Design– Plastic pollution is a major challenge, and designing products with recyclability in mind can help reduce waste and conserve resources. Here are key principles for making plastic products easily recyclable:

- **Use a Single Polymer Type** – Simplifies recycling; e.g., Coca-Cola's 100% rPET bottles.
- **Avoid Additives & Coatings** – Minimizes recycling barriers; e.g., Evian's label-free bottles.
- **Design for Easy Disassembly** – Enables material separation; e.g., Tetra Pak's recyclable cartons.
- **Optimize Labeling & Marking** – Reduces contamination; e.g., Coca-Cola's direct print bottles.
- **Ensure Recycling Compatibility** – Supports both mechanical & chemical recycling; e.g., Revalyu Recycling's PET process.
- **Promote Consumer Awareness** – Encourages correct disposal; e.g., Unilever's "Rinse, Recycle, Reimagine" campaign.

Innovative Industry Initiatives:

- **Unilever:** 100% recyclable packaging goal by 2025, with products like Love Beauty and Planet's recycled bottles.
- **Coca-Cola:** 50% recycled content in plastic bottles by 2030, including Dasani's rPET bottles.
- **Loop:** Refillable packaging system reducing single-use plastics.

Looking Ahead: PolyNext Awards & Conference 2025

Held in Dubai (Oct 1-2, 2025), **PolyNext Awards & Conference** will showcase innovations in plastic recycling and sustainable packaging, driving industry-wide change.



Article II

Tackling Plastic Waste: Challenges & Solutions

Over 9200 million metric tonnes of plastic have been produced globally, with 6900 Mt ending up in landfills or the environment without being recycled. This accumulation not only threatens ecosystems but also represents a significant economic loss. Effective plastic waste management is essential to sustain this multi-billion-dollar industry while minimizing environmental harm.

Current Waste Management Approaches

Plastic waste is primarily managed through three methods: landfilling, incineration, and recycling. Landfilling is the most common approach, but limited space and the risk of toxic chemical leaching make it unsustainable. Waste-to-energy incineration converts plastic waste into energy, but it releases harmful pollutants, contributing to climate change. Recycling is the most sustainable option, reducing reliance on virgin plastics, but contamination significantly hampers its efficiency.





- **Consumer Awareness** – Clear labeling & education enhance waste segregation.
- **Chemical Recycling Innovations** – Helps process mixed & contaminated plastics.
- **Microplastic Mitigation** – Filtration systems reduce environmental impact.
- **Policy & Incentives** – Landfill fees and financial support boost recycling efforts.

Key Recycling Challenges

- **Mixed Plastic Types:** Different materials require different processes.
- **Food & Chemical Contaminants:** Reduce recyclability and pose health risks.
- **Microplastics & Poor Sorting:** Lead to environmental pollution.
- **Economic Barriers:** High costs discourage recycling over disposal.

Solutions for Effective Recycling

- **Advanced Sorting Technologies** – AI & infrared scanners improve efficiency.



Article III

The Role of AI and Robotics in Cleaning Plastic Waste – Smart Solutions



Introduction: The Growing Plastic Waste Crisis.

Plastic pollution is a major environmental challenge, with millions of tons of waste ending up in oceans and landfills. Traditional cleanup methods are inefficient, but AI and robotics are revolutionizing plastic waste management.

AI-Powered Sorting for Efficient Recycling

AI-driven sorting systems, like those from AMP Robotics and TOMRA, enhance recycling by accurately identifying plastics based on material, color, and composition. This improves recycling quality and reduces contamination.

Robotic Solutions for Ocean Cleanup

AI-powered systems like The Ocean Cleanup's Interceptor and Clearbot autonomously collect plastic waste from rivers before it reaches the ocean, preventing further pollution.

Optimizing Recycling Supply Chains

AI helps streamline recycling supply chains by forecasting demand, optimizing transport routes, and enhancing transparency using blockchain technology. Companies like IBM and SAP are leveraging AI to track and manage plastic waste efficiently.

Innovative Packaging for Sustainability

AI is driving sustainable packaging solutions. Companies like PepsiCo and Coca-Cola use AI to design biodegradable packaging and improve recyclability, reducing reliance on single-use plastics.

Community-Driven Approaches

Organizations like Plastic Collective empower local communities with education and training in plastic waste management, combining technology with people-led initiatives for long-term impact.

Conclusion: A Tech-Enabled Sustainable Future

AI, robotics, and community efforts are shaping the future of plastic waste management. Events like PolyNext Awards & Conference 2025 promote innovation and collaboration in sustainable plastic solutions. By integrating smart technology with grassroots action, we can move towards a cleaner, greener planet.



Article IV

Plastic Pollution: A Looming Environmental Crisis & the Heroes Fighting Back

The Plastic Waste Challenge: Plastic pollution is a global crisis affecting ecosystems, wildlife, and human health. Every year, over 400 million tons of plastic waste are produced, but less than 10% is recycled. The rest accumulates in landfills, rivers, and oceans, taking centuries to decompose. Marine life suffers the most, with millions of sea animals dying due to plastic ingestion and entanglement. Microplastics have even been found in drinking water, seafood, and human blood, raising serious health concerns.

If plastic pollution continues at its current rate, there could be more plastic in the ocean than fish by 2050. Additionally, plastic production and incineration contribute to climate change by releasing harmful greenhouse gases.

Changemakers Leading the Fight

Despite these challenges, individuals and organizations worldwide are stepping up to combat plastic pollution through activism, innovation, and policy advocacy.

Global Activists & Innovators:

- **Afroz Shah (India):** Led the world's largest beach cleanup at Versova Beach, removing over 15 million kg of plastic waste and restoring marine biodiversity.
- **Tiza Mafira (Indonesia):** Spearheaded the Plastic Bag Diet Movement, reducing plastic bag use by 55% and inspiring province-wide bans.
- **James Wakibia (Kenya):** Advocated for Kenya's ban on single-use plastics, influencing other African nations to adopt similar policies.
- **Shelby O'Neil (USA):** Launched #NoStrawNovember, convincing businesses like Alaska Airlines to switch to eco-friendly alternatives.

Youth & Grassroots Initiatives: Young activists and community-driven projects are making a significant impact.

- **Aditya Mukarji (India):** Eliminated nearly **500,000** plastic straws through his #RefuseIfYouCannotReuse campaign.
- **Melati & Isabel Wijsen (Bali):** Founded **Bye Bye Plastic Bags**, leading to a government ban on plastic bags, straws, and Styrofoam in Bali.



Government & Corporate Solutions

Governments and corporations are stepping up with large-scale initiatives:

Local communities across Thailand, Cameroon, and India are actively cleaning up plastic waste, promoting recycling, and advocating for policy changes.

- **UAE's Mission to Zero:** Achieved a 95% reduction in plastic bag usage, introduced smart bins, and promoted recycling incentives.
- **European Union's Plastic Ban:** Enforced a ban on single-use plastics, including straws, cutlery, and plates, to reduce marine pollution.
- **Plastic Recycling Innovations:** Companies are developing biodegradable alternatives, circular economy strategies, and advanced waste management technologies.

A Call for Collective Action

The fight against plastic pollution requires global cooperation. Stricter regulations, sustainable innovations, and public participation are crucial. Events like **PolyNext 2025** bring together **environmental leaders, policymakers, and innovators** to develop real-world solutions for a sustainable future.

Every reusable bag, every plastic-free alternative, and every cleanup effort contributes to change. The solutions exist—**what's needed is commitment**. Now is the time to act for a plastic-free world.

Article V

EPR and Plastic Recycling: Shaping a Sustainable Future

The Role of EPR in Driving Sustainability

Extended Producer Responsibility (EPR) ensures producers manage plastic waste throughout its lifecycle, promoting recycling, corporate accountability, and sustainable waste solutions.

Key Impacts of EPR

- Higher Recycling Rates – South Korea's packaging recycling surged 70% (2003–2017), while the EU halved landfill waste in two decades.
- Circular Economy – Encourages plastic reuse and integration of recycled materials.
- Environmental Benefits – Could cut ocean plastic waste by 80% by 2040.
- Sustainable Packaging – Drives biodegradable & recyclable product innovation.
- Cost Savings for Governments – Shifts waste management costs to producers.



Corporate Leaders in EPR

Nestlé India – Achieved plastic neutrality through strong recycling programs.

Unilever – Targets 100% recyclable packaging & 50% less virgin plastic by 2025.

Coca-Cola – Aims to recycle 100% of its packaging by 2030 under “World Without Waste.”

Challenges & Future Outlook

Barriers – Lack of infrastructure, weak enforcement, and data transparency.

Opportunities – Global regulations, the 2025 UN Plastics Treaty, and stronger corporate initiatives.

Join the PolyNext Awards & Conference 2025

The PolyNext Awards & Conference 2025 is a premier global platform uniting industry leaders, policymakers, and sustainability advocates to explore cutting-edge solutions in plastic recycling and circular economy strategies. Be part of the movement shaping the future of sustainable waste management.

Conclusion

EPR is a pivotal force in tackling plastic waste, transforming waste management systems, and accelerating global sustainability efforts. Its success hinges on innovation, policy enforcement, and industry-wide collaboration.



INDUSTRY NEWS

A COMPETITIVE EUROPE – WITH OR WITHOUT PLASTICS?





This Delhi Entrepreneur Has Prevented 200 Tonnes of Plastic Waste From Polluting the City: In 2020, Delhi-based entrepreneur Mohd Suhail founded Athar Packaging Solutions to address India's escalating plastic waste problem. Recognizing that the country generates approximately 10.2 million tonnes of plastic waste annually, Suhail aimed to transform this challenge into an opportunity for sustainable innovation.

Over the past three years, Athar Packaging Solutions has recycled 200 tonnes of industrial plastic waste, significantly reducing environmental contamination and promoting circular waste management. This initiative has also prevented nearly 300 tonnes of CO₂ emissions, as recycling plastic is more energy-efficient than producing new materials.

Suhail's venture exemplifies how small businesses can drive significant environmental change by integrating sustainability into their operations, offering a model for others aiming to balance ecological responsibility with profitability.

The company's journey began with extensive research to identify recyclable plastics suitable for durable packaging products, focusing on LDPE, BOPP, and LD plastics. Collaborating with manufacturers, Suhail modified existing machinery to efficiently process these materials. Building relationships with waste suppliers was crucial, as convincing companies to provide their plastic waste required demonstrating the viability and eco-friendliness of the recycling process.

To make sustainable packaging more accessible, Athar Packaging Solutions initially priced its products with a modest 5% profit margin, encouraging businesses to adopt eco-friendly alternatives. This strategy proved successful, expanding the company's clientele to over 700 businesses across 60 cities, including major hubs like Delhi, Bengaluru, and Mumbai. The product line has also diversified, now offering various packaging options such as corrugated boxes and stand-up zipper pouches.

"Lie-cycling": Only 9% of plastic is recycled—overhyped?

The article published on Down To Earth challenges the prevailing narrative about plastic recycling, revealing that a mere 9% of all plastic produced has ever been recycled. This stark statistic underscores a critical issue: the assumption that recycling is a silver bullet for plastic waste management is largely unfounded.



The piece delves into how the recycling industry has received disproportionate attention and support, despite its limited impact on overall plastic waste reduction. It highlights that the vast majority of plastics end up in landfills, incinerators, or as litter in the environment, contributing to widespread pollution and ecosystem degradation.

The analysis also points out that while recycling is often touted as an environmentally friendly solution, it diverts focus from more effective measures such as reducing plastic production and investing in alternative materials. It raises questions about the sustainability and economic viability of the current recycling models, arguing that technological and systemic limitations hinder their effectiveness. Furthermore, the article calls for a reevaluation of waste management strategies, emphasizing the need for holistic policies that combine waste reduction, improved product design, and stronger regulations on plastic production. Overall, it invites readers to critically examine how society prioritizes recycling in the broader context of environmental protection and sustainable resource management.

India and China Spearhead Modest Gains in Plastic Recycling

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Global Plastic Recycling Rates Remain Alarmingly Low

A recent report from Statista highlights a concerning trend in plastic waste management—only a small fraction of plastic waste is being recycled worldwide. The data shows that despite growing awareness of plastic pollution, most plastic waste still ends up in landfills, incinerators, or the environment.



According to the report, the global recycling rate for plastic remains below expectations, with some regions performing better than others. While European countries lead in recycling efforts, with rates exceeding 30%, other regions, including the U.S., lag behind. The report emphasizes the need for improved waste management policies, greater investment in recycling infrastructure, and consumer awareness to drive higher recycling rates.



Experts warn that without immediate action, plastic pollution will continue to rise, posing serious threats to marine life, ecosystems, and human health. Governments and businesses must collaborate to create sustainable solutions, such as promoting circular economies, improving plastic collection systems, and encouraging biodegradable alternatives.

The findings reinforce the urgency of addressing plastic waste through stricter regulations and innovative recycling technologies. As global plastic consumption increases, the need for effective recycling strategies has never been more critical.



Walmart says it's unlikely to meet 2025 plastic, recycling targets

Walmart has acknowledged that it is unlikely to meet its 2025 targets for reducing plastic packaging and enhancing recyclability. In a February 28 update, the retailer reported that while 82% of its global private-brand plastic packaging is designed for recycling, the total weight of virgin plastic used increased to nearly 1.07 million metric tons in 2023. This rise is largely attributed to growth in product categories like food. Walmart also cited challenges such as limited supply of high-quality post-consumer recycled (PCR) materials and price volatility, which have hindered progress in increasing PCR content. Additionally, regulatory restrictions limit PCR use in certain packaging categories, including pharmaceuticals. Despite these setbacks, Walmart plans to continue efforts to reduce materials cost and waste, conserve resources, enhance efficiencies, and reduce emissions

94% plastic recycled in 4 hours: Scientists develop new method powered by air moisture

Researchers at Northwestern University have developed an innovative method to recycle polyethylene terephthalate (PET) plastics by leveraging ambient air moisture and a cost-effective catalyst. This environmentally friendly process offers a promising alternative to traditional recycling methods, which often require high energy input and produce toxic byproducts.

The process begins by combining PET with a molybdenum-based catalyst and activated carbon—both abundant and non-toxic materials. Upon heating, the chemical bonds in the PET break down. Subsequent exposure to ambient air, containing trace amounts of moisture, converts the fragmented material into terephthalic acid (TPA), a valuable precursor for producing new polyesters. The only byproduct is acetaldehyde, an easily removable industrial chemical.

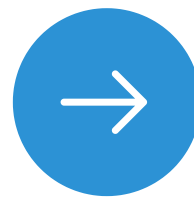
This method is both efficient and effective, recovering 94% of TPA within just four hours. The catalyst is durable and recyclable, maintaining its effectiveness through repeated use. Notably, the process selectively targets polyesters, eliminating the need for pre-sorting mixed plastics—a significant economic advantage for the recycling industry. Tests on real-world materials, such as plastic bottles and clothing, demonstrated the method's efficacy, even breaking down colored plastics into pure, colorless TPA.



This approach addresses the pressing issue of plastic pollution, particularly from PET plastics, which constitute 12% of global plastic consumption and are prevalent in food packaging and beverage bottles. By offering a cleaner, more sustainable recycling solution, this technique holds potential to significantly reduce plastic waste and contribute to a circular economy where materials are reused rather than discarded.

Speakers

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Saurabh Gupta

Founder & CEO,
Earth5R



Tames Jan Rietdijk

Program Advisor,
River Cleanup



Priya Sarma Mathur

Head Of Sustainability &
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Ajith PK

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Founder of
Revalyu



Aman Kulshrestha

Chief Technology Officer,
Emirates Biotech



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CEO, Lorenz
Kunststofftechnik
GmbH

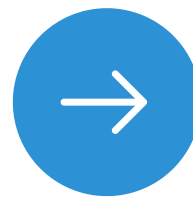


Ashly Alex

Director Environmental
Services, Imdaad LLC, &
General Manager, FARZ

Speakers

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Eric Schaffner

Founder of
ZeLoop



Dr. Hartmut Siebert

Head of Sales
Sulzer Chemtech Ltd



Mia Bowyer

CEO,
Automate Social



Mika Surakka

Managing Director,
Sumi Oy



Sachin Kumar Singh

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Chinuu Kwatra

Founder,
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Priyanka Jha

Director at Advance Plastic
Chips Manufacturing LLC

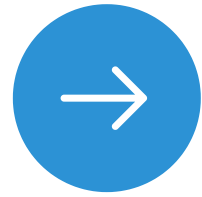


Rajesh Pahwa

Founder & CEO,
21 Century Polymers

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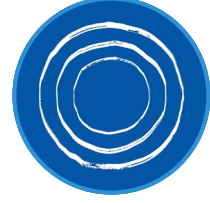
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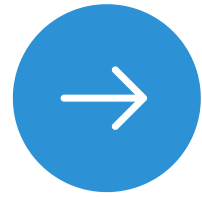
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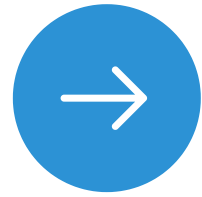
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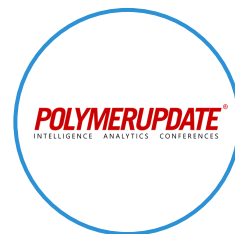
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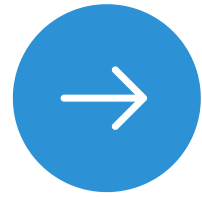
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