

»»» NEWSLETTER «««

SUSTAINABILITY NEWS

AIPMA - ENVIRONMENT CELL

UPCOMING EVENTS

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GLOBAL CONCLAVE ON PLASTIC RECYCLING AND SUSTAINABILITY INTERNATIONAL EXHIBITION
4TH - 7TH JULY, 2024
Bharat Mandapam, IECC, (Pragati Maidan), New Delhi

www.gcprs.org

CIRCULAR ECONOMY

TOP NEWS

FOURTH SESSION OF THE INTERGOVERNMENTAL NEGOTIATING COMMITTEE ON PLASTIC POLLUTION (INC-4), OTTAWA, CANADA, 23-29 APRIL 2024

The fourth session of the Intergovernmental Negotiating Committee (INC) to develop an international legally binding instrument on plastic pollution, including in the marine environment, took place from 23 to 29 April 2024 at the Shaw Centre in Ottawa, Canada. Over 2,500 delegates from 170 countries and more than 480 observer organizations attended the gathering. The session shows a mix of progress and ongoing challenges. Some progress was made, with countries agreeing to hold key technical meetings. However, differences remain, especially on plastic production limits. Industry groups showcased solutions for recycling and waste management, while India represented by Shri Gangawar, requested for linking financial and technical assistance to negotiation process, receiving assurance for consensus-driven process.

A US Congressional delegation urged the United States to take stronger action, with the urgency despite existing challenges. Resin industry executives and other environment groups debate production caps, with industry promoting programs like Operation Clean Sweep and opposing strict regulations. Some countries proposed a 'polluter pays' fee to fund environmental efforts, though its inclusion in the treaty remains uncertain.



In preparation for the fifth session of the INC (INC-5) in December in Busan, Korea, the Committee decided to conduct intersessional work. Two open-ended, ad hoc, intersessional expert groups were formed. The first group will examine criteria-based and non-criteria-based approaches to plastic products, focusing on recyclability, reusability, and chemicals of concern. The second group will analyze potential funding sources and mechanisms to support the treaty's objectives. An open ended legal drafting group will also review the draft. The Committee also asked the secretariat to arrange an in-person meeting for these expert groups before INC-5 to discuss the availability of financial resources. Furthermore, the Committee decided to form an open-ended legal drafting group to provide a legal review of the draft text starting at INC-5. This group will consist of two Co-Chairs nominated by the INC and legal experts designated by Member States. The Sub-Groups at INC-4 submitted a proposal for a compilation document containing the five non-papers, which the Committee approved a compilation document to standardize and prepare for INC-5 negotiation. With this paper INC-5 negotiations will be commenced. The Bridge to Busan Declaration on primary Plastic Polymers was introduced by 28 Member States, where stakeholders and interested member are invited to sign, in support of this call to action. As the INC approaches its final meeting in November 2024, delegates and observers are unsure if they can overcome the challenges and agree on a plan to effectively fight plastic pollution. A number of other side events were also planned for INC-4 to provide stakeholders a chance to discuss various aspects of plastic pollution.



E-WASTE MANAGEMENT MARKET REPORT 2024: TRENDS AND REVENUE FORECASTS TO 2033

Source: yahoo.com

The market for e-waste management is expanding quickly; at a compound annual growth rate (CAGR) of 14%, it is expected to rise from \$60.25 billion in 2023 to \$70 billion in 2024 and then to \$118.32 billion by 2028. The growing amount of e-waste being produced, CSR programs, environmental concerns, and the need for scrap management solutions are some of the factors driving this expansion.

Technological developments, recycling technology advances, digital solutions for streamlined operations, adoption of advanced recycling technologies, and a focusing on eco-design principles to improve sustainability are some of the major industry trends. The expansion of the e-waste management industry is mostly being driven by the rising sales of electronic items. Businesses are creating digital technology solutions to improve their offerings. One example is Zolo's Single Touch e-waste recycling software, which attempts to guarantee regulatory compliance and expedite recycling procedures. Companies are increasing their geographic reach and skills in the e-waste recycling sector through strategic acquisitions, such as Elemental Holding Group's acquisition of Colt Recycling LLC.

Asia-Pacific is anticipated to develop at the quickest rate throughout the forecast period, with Europe remaining the largest region in the e-waste management market in 2023. The market study includes countries like Australia, Brazil, China, France, Germany, India, Indonesia, Japan, South Korea, UK, USA, Canada, Italy, and Spain along with regions like Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa. In addition to material recovery (metal, plastic, glass, and other materials), source (industrial electronics, IT and telecom equipment, data centers, networking cards/equipment, digital boards, and others), and application (disposal, reuse, landfill, incineration, recycle), the report divides the market into two categories: recycled and unrecycled.



GLOBAL PLASTIC EXTRUSION MACHINES MARKET EXPECTED TO REACH \$11,002.1 MILLION BY 2032—ALLIED MARKET RESEARCH

Source: yahoo finance

According to the study by Allied Market research the global plastic extrusion machines market is expected to reach \$11,002.1 million by 2032. The market, valued at \$6,315.1 million in 2019, is expected to grow at a CAGR of 4.8% from 2019 to 2032. Key points progressing towards the growth include the robustness, ease of operation, high manufacturing rates, rapid production, and ability to produce high-quality products. The demand for high-performance extruded plastic packaging films is driving this growth. However, the high initial cost of equipment may hinder growth. Technological advancements in plastic extrusion machines are expected to create lucrative opportunities. However, the high initial machinery cost and product limitations and size variances may pose constraints.

BIOMASS, PLASTIC WASTE AND CARBON DIOXIDE FEEDSTOCKS KEY TO CUTTING CHEMICAL INDUSTRY'S EMISSIONS

Source: Royal Society of Chemistry

The Royal Society of chemistry report reveals that defossilizing the chemical industry will rely on biomass, plastic waste, and carbon dioxide (CO₂) as alternative raw materials to reduce the environmental footprint.

As the chemical industry release about 6% of global carbon emissions, with a portion from fossil fuel-derived feedstocks this transition is necessary. To meet sustainability commitments, the industry must both electrify and diversify its feedstocks away from oil, natural gas, and coal. The proposed alternatives—biomass, waste plastic, and captured CO₂, each present their own challenges, but are necessary for the industry's processes to mitigate climate change.

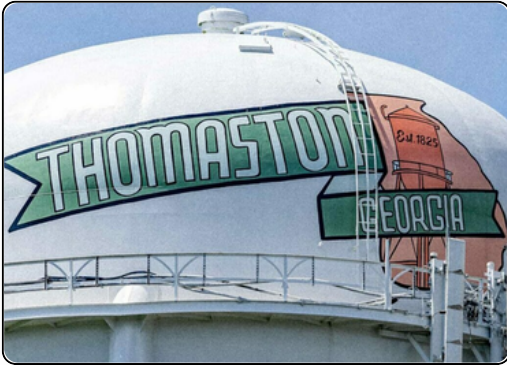


PLASTIC RECYCLING



»»» CHEMICAL RECYCLING FIRM PLANS \$950 MILLION FACILITY

Source: : resource recycling



\$950 million of investment on new pyrolysis plant by Brightmark in Thomaston Georgia, which is capable of processing 800 million pounds of mixed plastics annually. The plant will have facility of converting plastics into pyrolysis oil, usable for various chemical products, by shredding, compressing, and vaporizing them in an zero oxygen systems. Sourcing its feedstock from diverse origins, including post-consumer and post-industrial sources, this project follows a canceled 2022 plan for a similar plant in Macon. Brightmark also operates facilities in Indiana and Australia.

»»» YOUR LAB IS THROWING AWAY HUGE AMOUNTS OF GLOVES EVERY MONTH. HERE'S HOW TO RECYCLE THEM

Source: Royal Society of Chemistry



Researchers at Florida State University have launched a lab glove recycling initiative to reduce the amount of disposable plastics used in labs. Kristen Weeks and Carley Reid, PhD students, discovered that their department's labs were using an average of 15,600 pairs of gloves each month. Hence, they applied for an FSU Green Fund grant worth \$5000 to set up the program through TerraCycle which involved recycling gloves and raising awareness about the program. In their first year, they recycled 88kg of gloves. To reduce waste of gloves, researchers recommend quantifying the problem and applying for funding through university sustainability programs.

»»» DOW AND SCG CHEMICALS TARGET 200KT RECYCLED PLASTICS IN ASIA PACIFIC BY 2030

Source: Packaging Europe

A Memorandum of Understanding to accelerate advanced recycling technologies in the Asia Pacific region, aiming to process 200kt of plastic waste annually by 2030 is signed by Dow and SCG Chemicals. The initial phases of the agreement aim to develop solutions in waste sorting, mechanical recycling, and advanced recycling in Thailand, while also establishing a value growth partnership for post-consumer recycled materials with current suppliers.

The plan for the next stage is to source the plastic waste feedstocks beyond Thailand, potentially expanding into China, Korea, Japan, Taiwan, Australia, and New Zealand. With this the aim is to improve waste collection, management, and recycling in the region, unlock high-value applications for a wider range of plastics, and drive circularity for end-of-life plastics. Dow's 'Transform the Waste' target aims to commercialize 3 mmt of circular and renewable solutions every year by 2030, using plastic waste and other alternative feedstocks.



NEW RESEARCH/INOVATION

>>> HOKKAIDO UNIVERSITY PAVES THE WAY FOR RECYCLABLE PLANT-BASED POLYMERS

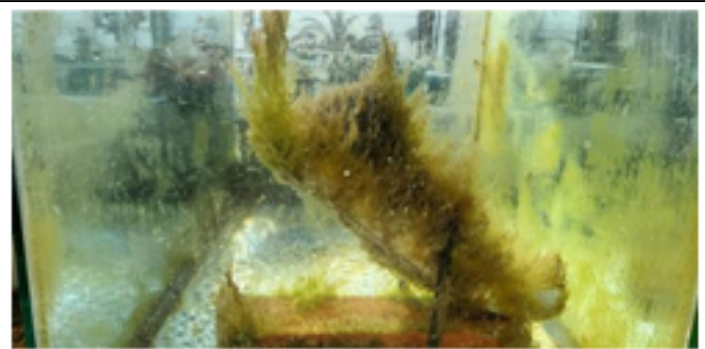
Source: WASTE 360

In an important step toward reducing plastic pollution, Hokkaido University researchers have made progress in producing recyclable polymers from plant materials. Through the utilization of compounds found in plant cellulose, they have created a process for making highly adaptable polymers that are entirely recyclable. Their novel approach is described in the article that was published in ACS Macro Letters. Levoglucosenone (LGO) and dihydrolevoglucosenone (Cyrene), two commercially available compounds, were transformed into a variety of polymers by the researchers using cellulose from plant wastes like straw and sawdust. This procedure makes it possible to create various materials that are suited for particular uses, providing a sustainable substitute for conventional plastics. After overcoming difficulties in maintaining stability and managing the polymerization activity, the researchers created polymer films with surprisingly great transparency. These materials have potential for high-performance applications in optics, electronics, and biomedicine, even if they might not be appropriate for flexible applications like plastic bags. While bioplastics are already on the market, Hokkaido's discovery opens new opportunities in the field. Future research aims to explore additional structural variations, potentially through collaborations with experts in computational chemistry and artificial intelligence. Ultimately, this work aims to establish a sustainable cycle of polymer synthesis from biomass, promoting efficient recycling and reducing environmental impact.

>>> SCIENTISTS HAVE FIGURED OUT WAY TO MAKE ALGAE-BASED PLASTIC THAT COMPLETELY DECOMPOSES

Source: Abc News

To address concern about the accumulation of non-biodegradable plastics in the environment, researchers at the University of California, San Diego developed a bio-based plastic derived from algae that totally breaks down in seven months in collaboration with the materials company Algenesis. In contrast to old petroleum-based plastics, the novel polyurethane-based material has the ability to get compost and biodegrade naturally. This study, published in Scientific Reports, shows that the material made of algae decomposes beyond the threshold of microplastics; after 200 days of composting, a 97% reduction was seen. The polyurethane-made polymers may be fully and totally biodegraded by a type of bacteria found in compost, according to the researchers. Although bio-based plastics show great potential for environmental advantages, their broad acceptance is hampered by their high cost due to the lack of infrastructure for algae cultivation.



Research shows a plastic made from algae can be fully biodegradable

**NUMALIGARH,
REFINERY OIL INDIA
SETTING UP SEVERAL
COMPRESSED
BIOGASS PLANTS IN
NORTH EAST**

>>> REDUCING PLASTIC POLLUTION BY 5 PER CENT YEARLY MAY STABILISE OCEAN MICROPLASTICS: STUDY

Source: Mid Day

The research, published by Imperial College London and GNS Science in Environmental Research Letters, found that a reduction in plastic pollution by more than 5% each year will stabilize and prevent the increase of microplastics in the ocean.

The modelling also predicted that even a yearly reduction of 20% will not be efficient to reduce existing microplastic levels, meaning they will persist in our oceans beyond 2100. The research also suggests that stabilising microplastic levels is the first step towards elimination, as they are never completely successful removal from oceans. The UN Environmental Assembly aims to adopt a legally binding resolution to completely eradicate plastic pollution from 2040, including ocean microplastics.

WASTE MANAGEMENT

➤➤➤ NEARLY 20,000,000 KG WASTE COLLECTED IN A YEAR: HOW THESE MUMBAI-BASED FOUNDERS ARE TACKLING THE CITY'S WASTE PROBLEM

Source: Hindustan times

The founders of ViaGreen in Mumbai, Akshay Surana and Nikunj Jaisalmeria, came out to solve the waste management issues facing the city. They faced several challenges beginning in 2015, including early business model failures. But they persisted because of their desire to change things. When the Municipal Solid Waste Management (MSW) guidelines were introduced in 2016, they took advantage of the opportunity to require trash segregation at the home level. ViaGreen began by assisting housing societies and companies with waste segregation, recognizing the lack of public awareness and understanding of waste management. They provided solutions and services to facilitate waste segregation, ultimately collecting and recycling approximately 59,000 kg of waste per day. Their innovative approach includes distributing bags with QR codes to track waste generation and segregation, leading to the collection and recycling of nearly two crores of garbage annually.

Through their initiative, ViaGreen goal is to solve the problem of obtaining segregated waste volumes for municipalities, enabling more effective waste management strategies. Additionally, they have also expanded their efforts beyond housing societies and companies to include beach and mangrove cleanups, recycling old clothes and materials, and providing job opportunities to ragpickers. The founders highlight the importance of individual actions in addressing the waste problem, urging people to reconsider their consumption habits and prioritize reuse and donation over disposal. By promoting conscious consumerism and waste reduction, ViaGreen is making significant impacts towards a cleaner and more sustainable Mumbai.

➤➤➤ ASTUTE ANALYTICA REPORT REVEALS ROBUST GROWTH IN GLOBAL WASTE MANAGEMENT MARKET

Source: WhaTech

A recent study by Astute Analytica titled "Global Waste Management Market - Industry Dynamics, Market Size, And Opportunity Forecast To 2031" provides information about the future direction of the waste management industry. Projected to expand at a 3.2% compound annual growth rate (CAGR) between 2023 and 2031, the global waste management industry indicates encouraging growth. The study highlights the noteworthy advancements achieved by the Asia-Pacific region, accounting for more than half of the global market share in terms of revenue. This indicates that the region has taken proactive steps and made investments in sustainable waste management solutions. Both Europe and South America have made significant improvements in trash management as well, utilizing strict laws and creative solutions to solve garbage-related issues. Growing urbanization, growing environmental concerns, and technological improvements are some of the main factors driving the waste management market's expansion. Technological advancements, such as sophisticated garbage sorting systems and IoT-enabled smart waste management systems, are changing the industry landscape, improving operational effectiveness, and advancing sustainability objectives. Collaborative efforts from governments, industries, and communities are essential in driving collective action towards achieving a circular economy and a zero-waste future.

DO YOU KNOW?



IN 2024, INDIA TO BE AMONG TOP 4 CONTRIBUTORS OF MICROPLASTICS RELEASED INTO WITH A PREDICTED EMIT OF 391,879 TONS



HIMACHAL'S GREEN INITIATIVE: 200 KM OF ROADS FROM PLASTIC WASTE

WASTE MANAGEMENT

»» KERALA: CITIIS 2.0 DPR PROPOSES RS 31 LAKH MONTHLY INCOME FROM WASTE MANAGEMENT

Source: New Indian Express

A detailed project report (DPR) for the CITIIS 2.0 program has been finalized by Smart City Thiruvananthapuram Ltd (SCTL). The aim of the program is to promote climate-oriented reform and integrated waste management, with a particular focus on circular economy concepts. The DPR outlines forth strategies for turning trash into cash by establishing RDF (Refuse-Derived Fuel) plants, organic waste converters, and recycling centers.

One of the primary objectives outlined in the DPR is the construction of RDF (Refuse-Derived Fuel) plants, which are essential for turning non-recyclable trash into energy. Thiruvananthapuram wants to reduce the amount of garbage that is dumped in landfills and the pollution that comes with using conventional methods of disposing of waste. The DPR also calls for the use of organic waste converters, which make it easier to turn organic waste into compost or biogas that is rich in nutrients. These converters aid in the effective management of organic waste and also contribute to the production of valuable resources for agricultural purposes.

The goal is to turn waste into resources that can generate income, with an average monthly production of about Rs 31 lakh. Among the projects that are being considered are the construction of RDF facilities, automatic baling units, advanced waste management solutions and organic waste converters in market. Under CITIIS 2.0, the state and the centre both will contribute Rs 103.7 crore and Rs 25.9 crore, for a total allocation of Rs 129.66 crore. The DPR focuses to achieve zero-garbage status for Thiruvananthapuram by ensuring 100% scientific handling of waste, leveraging advanced waste-to-wealth solutions.

The proposed projects include the deployment of waste management technologies, such as incinerators for the use in various schools, colleges, and senior living facilities, with the creation of IT-enabled garbage collection control systems. These technologies contribute to the enhancement of waste management operations' efficiency by guaranteeing adherence to environmental regulations and legislation. The goal of the initiative is to promote circular economy ideas and make money from waste. It might help to improve the overall economic growth, standard of living in the city, and will promote environmental sustainability.

»» WASTE MANAGEMENT BOOSTS PROFIT MARGINS BY REROUTING AND REPLACING TRASH TRUCKS

Source: The Wall Street Journal

Waste Management, North America's largest waste and recycling company, saw a notable increase in its profit margin, which now stands at 29.7%, as a result of recent investments in side-loading trucks and vehicle-routing technology. Utilizing software that functions as "Waze on steroids," the firm has streamlined its routes for collecting industrial trash, leading to increased productivity and decreased operational complexity. Additionally, the introduction of side-loading trucks has aided in simplifying operations because they only need one driver and increase safety. with plans to replace 2,000 rear-loading trucks with side-loaders by 2025 in order to increase margins even more. Despite of various obstacles including backlogs in the supply chain and community adjustments to new waste disposal guidelines, the firm maintains optimism over meeting its efficiency targets and being profitable.



INITIATIVES IN INDIA



MUNICIPAL CORPORATION OF GURUGRAM TO SET UP 4 PANELS FOR EFFECTIVE WASTE MANAGEMENT