

Investment viewpoint

Plastic wrap: innovations, private-equity dealflow for circularity

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Welcome to the launch issue of *Plastic wrap*, our bimonthly review of the science, policy and corporate activity pivotal in creating a circular plastics value chain.

As private equity specialists focused on growth-stage investments in this space, such insights provide context for our research. By sharing them, we hope to inform investors interested in plastic circularity.

Need to know

- Emissions from the plastics sector are set to double by 2050 unless mitigation strategies are deployed globally
- Sustainable biomass can help absorb CO₂ emissions while reducing plastic waste
- The United Nations and European Union are proposing far-reaching regulations aiming to address plastic pollution



Christopher Tritten
Head of Private Equity



Victoire Carous
Portfolio Manager



Antoine Bihi
Research Analyst



Khangzhen Leow
Senior Sustainability Analyst

Science

The environmental impact of the plastic crisis not only involves pollution leaking into natural ecosystems but also carbon emissions generated in the linear production of the material.

A [recent study](#) from by the University of Utrecht, published December 2022 in Nature, forecast that the plastic sector's CO₂ emissions would double by 2050 without mitigation.

The study outlines three key mitigation strategies: increased bio-based material usage, greater recycling and integrating renewable energy into plastic-production processes. Adopting these strategies could turn the plastic sector into a net carbon sink while phasing out landfilling and reducing resource consumption. They could also cut the industry's CO₂ emissions by more than 50% by 2040 and achieve net zero by 2090, the study suggests.

Using sustainable biomass, which is critical to absorbing atmospheric CO₂, as a plastic feedstock is aligned with the first of these strategies. For instance, PLA is made from the refined sugars of plants like corn and sugarcane, and PHA are created from the digestion processes of microbes. We are investigating investment opportunities in these areas.

Policy and regulation

At the global and European levels, two significant policies aiming to enhance circularity in the plastics value chain are being developed:

1. The [UN Global Plastic Treaty](#) negotiations kicked off in December 2022 in Punta Del Este, seeing more than 160 countries progress towards an agreement to eliminate plastic waste and pollution on a global scale. Actions covering the entire lifecycle of plastics – production, design, use and waste management – were considered. The meetings gathered NGOs, corporates,

governments and representatives of the informal waste-picking sectors and laid out the foundations for future negotiations, with the ultimate aim of adopting a global treaty by the end of 2024. Solutions under consideration include extended producer responsibility – in which brands pay for the waste management cost proportionate to their plastic use - and sustainable production and consumption of plastics.

Countries are [especially divided](#) on a possible mandatory reduction of plastic production. The high-ambition coalition – including the European Union (EU), Uruguay and Ghana – prefers a mandatory global measure, but the US and Saudi Arabia advocate country-driven pledges, which have been criticised by environmentalists given the potential enforcement issues.

Overall, the treaty draws parallels with the COP21 Paris Agreement on climate change and has the potential to provide wide-ranging support for investment in companies across the world driving circularity in the plastics industry.

2. In November 2022, The EU began consulting on a proposal revising its [Packaging and Packaging Waste Regulations](#), with three objectives: to prevent unnecessary packaging waste; promote reusable and refillable packaging; and to boost high-quality, closed-loop recycling while enforcing targets to increase recycled-plastics use.

The final regulations are expected to come into force in 2024, following industry consultation and negotiations between member states. They should incentivise recyclable, circular products and services, and strengthen the investment case for many businesses embedding circularity in their products and services. This policy move should support the [three themes](#) underpinning our Plastic Circularity Strategy.

Corporate activity

The space is as vibrant as ever. Here is a selection of recent transactions and announcements¹ aligned with the themes of innovative materials, new usage models and improved collection, sortation and recycling.

THEMES AND SOLUTIONS

Circular products and services/innovative plastic material

Traceability

[Circularise](#) raised a EUR 11 million Series A round to further develop its blockchain-powered traceability platform. The Dutch firm specialises in digital passports that improve visibility in complex supply chains, including plastic waste. Investors include [Asahi Kasei](#), [Neste](#), [Brightlands](#) and [4Impact Capital](#).

November 2022

Innovative plastic materials

Confectioner Mars reached a [new milestone](#) in a project with [SABIC](#), [Landbell](#), [Plastic Energy](#), [Taghleef](#) and [SIT](#). A new packaging material, made from mono-material propylene, improves the recycling rate by eliminating the need for using multi-material layers or laminated plastics. The project is part of the company's plan to increase recycled content.

November 2022

Improved collection, sorting and recycling

Robotics for smart sortation

[Amp Robotics](#) raised a USD 91 million series C round. The proceeds will scale-up business operations while continuing its international expansion. The US firm is a pioneer in artificial intelligence, robotics and infrastructure for the waste and recycling industry. Investors in the round include [Blue Earth Capital](#), [XN](#) and [Valor Equity Partners](#).

November 2022

Extending the use life of plastics/new usage models

Re-use

[Modern Milkman](#) raised GBP 600,000 in a crowdfunding round only months after securing a larger Series C round. The UK company is a return-and-reuse grocery-delivery service. Over 1,500 new investors participated in the round. Proceeds will go towards expanding the company's product range.

January 2023

Circular products and services

US-based Infrastructure manager [Brookfield Renewable](#), through its Brookfield Global Transition Fund, and growth equity firm [Closed Loop Partners](#) announced [Circular Services](#), a new US recycling platform. It aims to operate municipal recycling facilities across the US that can save money spent on on landfill disposal by recycling and re-using viable goods in domestic supply chains. Brookfield has invested USD 200 million in the platform, and committed an additional USD 500 million to pursue further opportunities.

November 2022

To learn more about our Plastic Circularity private-equity strategy, please [click here](#).



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