SYSTEMIQ

STRICTLY EMBARGOED UNTIL 00:01HRS GMT ON 04 APRIL 2022

EUROPEAN PLASTICS SYSTEM NEEDS SIGNIFICANT CHANGE WITHIN 5 YEARS TO MEET LONG-TERM CIRCULARITY AND NET ZERO EMISSIONS GOALS, WARNS MAJOR NEW REPORT

- **A redesigned plastics system must address circularity and carbon emissions simultaneously, and to do so must implement both upstream and downstream measures – recycling alone will not suffice**
- **The European plastics system's current adaptations are too slow to align with agreed climate goals, circularity policies and the European Green Deal**
- **A collaborative, systemic approach urgently needed across all stakeholders**

Today a major new report, **"ReShaping Plastics – Pathways to a Circular, Climate Neutral Plastics System in Europe",** finds that a fully circular, net zero carbon emissions plastics system in Europe is possible, but achieving it will require radical innovation, ambitious policies, and significant capital investment. Cooperation between industry, government and civil society is the critical success factor underlying all of these.

ReShaping Plastics focuses on four of the most important plastic-using sectors: packaging, household goods, automotive, and construction, and presents six scenarios, outlining which actions should be prioritized for different plastic applications in order to meet circularity and climate mitigation goals.

Report's key findings

1. The report finds that current industry and policy actions could more than double system circularity from 14% to 30% by 2030, leading to a reduction of 11 million tonnes (Mt) of CO2e emissions and 4.7 Mt less plastic waste disposed in landfills or incinerators, but these actions would still leave a highly resource inefficient system. **And are not yet fast enough to align with the goals of the Circular Plastics Alliance, European Green Deal, or the Paris and Glasgow climate agreements.**

2. **There is no "silver bullet" solution** to significantly reduce waste disposal and GHG emissions. Upstream[1] and downstream[2] solutions are complementary and are most effective when deployed together.

3. Ambitious adoption of circular economy approaches in the plastics value chain – that is, **applying upstream and downstream solutions together - can drive significant reductions in GHG emissions and waste disposal in the next decade and beyond.** Yet it is still not enough to reach net-zero carbon emissions by 2050.

4. To achieve net-zero carbon emissions by 2050, **multiple less mature, innovative technologies and approaches need to be developed and deployed** in addition to proven circular economy levers to further decrease GHG emissions and decouple plastic from fossil fuel feedstocks**.**
5. **The next three to five years are a critical window for action.** Long technology maturity cycles and capex lock-in for large infrastructure investments mean that the decisions taken in the early 2020s will determine whether the European plastics system will achieve a circular economy and net zero GHG emissions by 2050.

[1] pre-consumer, such as material redesign, plastic reduction, and substitution

[2] post-consumer, such as mechanical and chemical recycling

"This rigorous and extensive report should act as a clarion call for all European stakeholders involved in plastics. One of the report's key findings is that the European plastics system is already adapting to address the challenges of climate change mitigation and circularity but commitments on behalf of industry and policymakers do not go far or fast enough to align with the goals of the European Green Deal or the Paris and Glasgow climate agreements. We must adapt and we must do so at pace. This report provides a roadmap to this critical transition, but it will be challenging so we must start now", **Jyrki Katainen, President of the Finnish Innovation Fund Sitra**, said.

"How close the system comes to transformation will depend on the level of leadership shown by key decision makers across all stakeholder groups. The adoption of circular economy approaches across the plastics value chain can drive a 33% reduction in GHG emissions and a 46% reduction in waste disposal by 2030. It is both affordable and achievable within technical constraints but requires an ambitious combination of both upstream and downstream solutions. A new plastics system is within reach but will require bold action. It needs industry, public sector, investors, and civil society to come out of their "trenches" and collaborate in a deeper way based on a shared fact-base – that was the main objective of this program.", **Yoni Shiran, Program Director and Partner at SYSTEMIQ**, said.

Virginia Janssens, Managing Director of Plastics Europe, said: "We recognise the severity of the climate crisis and plastics waste challenge. It's essential therefore that we continue to explore ways to promote fact-based discussion with the whole plastics value chain, and policy makers, on how best to accelerate the transition towards the EU's net zero carbon emissions and circularity goals. That is why we decided to commission this report."

"Plastics Europe welcomes the report. It is insightful and thought provoking and will make a valuable contribution to informing and guiding the decisions of Plastics Europe, our members, and all stakeholders. Plastics Europe's members have been investing and innovating to support the EU's net zero and circularity ambitions for a long time, and this has accelerated in recent years. However, we support the report's central finding that faster systemic change is essential, and that circularity is the most important medium-term lever of the European plastics system's transition."

In addition to proven circular economy approaches, there are multiple less mature pathways– including shift to green hydrogen, the use of carbon capture and storage (CCS) technologies to incinerators and steam crackers, shifting to bio-based polymers and electrifying steam crackers, that decrease GHG emissions and tend to decouple plastic from fossil fuel feedstocks. These are critical to achieve net zero carbon emissions in the European plastics system, as circular economy levers alone, while critically important, will not suffice.

Furthermore, the report found data gaps in current plastic waste data; for example, over 40% of the plastic put on the market in Europe may not be fully accounted for in waste statistics[3]. This data gap presents a major challenge to the understanding of the environmental and climate impacts of plastic.

ReShaping Plastics' findings demonstrate that the plastics system must adapt in ways that ensure that it is both circular and aligned with the net zero carbon emissions agenda, and both challenges must be addressed simultaneously. Based on the science-based approach of the ground-breaking report *Breaking the Plastic Wave* by SYSTEMIQ and The Pew Charitable Trusts, *ReShaping Plastics* uses a data-driven model of the European plastics system, allowing the researchers to quantify the economic, environmental and social implications of different scenarios and different system interventions – such as investing in recycling, designing packaging for circularity, shifting to reuse systems, among many others - from now until 2050.

[3] Plastic "in use" in our economy may explain part of this data gap, but probably not all of it based on our analysis

Reshaping Plastics was a 12-month project produced by the independent systems-change company, SYSTEMIQ. It was overseen by a fully independent Steering Committee and Expert Panel - comprised of experts across industry, public sector, civil society and academia – to ensure its impartiality. Jyrki Katainen, President of the Finnish Innovation Fund Sitra, a former European Commission Vice President and former Prime Minister of Finland, acted as Chair of the Steering Committee. The report was commissioned and financed by Plastics Europe. Plastics Europe's reaction to this report can be found here.

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NOTES TO EDITORS

ReShaping Plastics launch event will be held on 04 April at 11:30 BST / 12:30 CEST.

A circular and climate neutral plastics system is one which designs out waste, eliminates unnecessary production and consumption, keeps products and materials in the economy, and safely collects and disposes waste that cannot be economically processed, thereby permanently increasing material circularity, reducing GHG emissions, and stopping plastic pollution.

About SYSTEMIQ

SYSTEMIQ was founded in 2016 to drive the achievement of the Paris Agreement and the UN Sustainable Development Goals by transforming markets and business models in four key systems: land use, circular materials, clean energy, and sustainable finance. A certified B Corp, SYSTEMIQ partners with industry, financial and government institutions, and civil society; and invests in high-impact ventures that have the potential to unlock economic opportunities that benefit business, society, and the environment. In 2020, SYSTEMIQ and The Pew Charitable Trusts published "*Breaking the Plastic Wave: A Comprehensive Assessment of Pathways Towards Stopping Ocean Plastic Pollution*" - a first-of-its-kind model of the global plastics system that describes how to radically reduce ocean plastic pollution. The findings of the analysis were published in the peer-reviewed journal, Science.

For more information, contact us at plastic@systemiq.earth or visit www.systemiq.earth.