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Most comprehensive study of national plastics system to date sets out roadmap for achieving circularity and net zero emissions goals by 2040

- Study covers ~ 80% of Norwegian plastic consumption across single-use and durable plastics in seven key industry sectors, the most comprehensive national analysis to date
- Transition must address circularity and carbon emissions simultaneously, covering upstream and downstream circularity, as well as supply side abatement measures
- Combined interventions can achieve 70% circularity, reduce greenhouse gas (GHG) emissions by 75% and increase jobs by 7%
- A collaborative, systemic approach urgently needed across all stakeholders

London-Oslo, 23rd March 2023. Today, a new study, *'Achieving Circularity'*, sets out a practical and ambitious roadmap for all stakeholders to accelerate the transition towards a circular, low-emissions plastic system in Norway by 2040. It finds that existing solutions can achieve unprecedented levels of resource efficiency across seven key sectors, and provide an affordable and scalable means of dramatically reducing GHG emissions. However, achieving this transition will require ambitious policies, innovation, capital investment, cross value-chain collaboration, consumer engagement and labour force reskilling.

'Achieving Circularity - A low-emissions, circular plastic economy in Norway' analyses ~80% of the country's plastic use across seven key sectors: packaging, household goods, construction, textiles, electronics and electricals, automotive, and fishing and aquaculture. Norway is the first country to scrutinise such a comprehensive scope of plastic sectors, making this study one of the most holistic views of a national plastic system ever presented.

The report was created by system change company Systemiq, in partnership with Handelens Miljøfond (Norwegian Retailers' Environment Fund) and consultancy Mepex, with input from 16 international experts.

It presents five key findings:

1. Currently, **only 22% of plastic across the seven sectors is reused or recycled**. The current plastic system relies to **90% on fossil-based** plastic manufacturing processes and ~ 70% of plastic is incinerated. It represents ~ **7% of Norway's GHG emissions**.
2. **Current policy and industry commitments are inadequate** for transforming the Norwegian plastic system in a way that aligns with the goals of the European Green Deal, or the Paris and Glasgow climate agreements.
3. The **ambitious adoption of circular economy approaches** in the plastics value chain - such as elimination, reduction and reuse, substitution as well as mechanical and chemical recycling - **can increase circularity from 22% in 2020 to 70% by 2040** and reduce waste disposal by ~35%.
4. **Circularity approaches alone are insufficient to bring the system into alignment with Norway's climate target** as they can only reduce GHG emissions by one third, leaving ~1.9 million tonnes of CO₂eq of emissions by 2040 (down from ~2.8 million tonnes in 2020). Additional emissions abatement measures, such as using alternative carbon feedstocks and capturing residual emissions, can **reduce GHG emissions by ~75% by 2040** relative to 2020 and decouple plastic from fossil fuel feedstocks.

5. **Circularity and net zero pathways are achievable within existing solutions, and the cost is not prohibitive**, requiring an annual additional investment of ~\$54m (570m NOK) for 20 years. The transformation could create ~1,300 additional jobs compared to 2020 but reskilling will be vital.

Cecilie Lind, General Manager, Handelens Miljøfond, said: “Norway aims to continue to be a frontrunner on addressing the global plastic pollution challenge, and – together with Rwanda – is leading the High Ambition Coalition to End Plastic Pollution. This study lays out a pathway for Norway’s own transition towards a low-emissions, zero-waste circular plastic economy, and reduce the yearly Norwegian per capita plastic disposal from around 73 kg in 2020 to around 41 kg per year in 2040. Handelens Miljøfond is committed to strengthening partnerships and collaboration between stakeholders across the value chain in order to develop a shared vision and strategies for achieving a better plastic system in Norway.”

Yoni Shiran, Partner and Plastics Lead at Systemiq, said: “The global treaty on plastic pollution offers a unique chance to shift towards a circular and low-emissions plastic economy. This study offers evidence-based recommendations on priority areas for a highly developed country’s plastic system. It shows that GHG emissions can be cut by 75% and waste disposal by 35% by 2040 in a way that is both affordable and achievable within technical constraints. This transition requires an ambitious combination of both upstream and downstream solutions, and it will require leadership and collaboration across industry, public sector, investors, and civil society. Only then can we seize this opportunity to shift to the low-emissions circular plastic systems Norway – and the world – needs.”

While the analysis shows that 70% circularity is achievable overall, the seven sectors analysed rely on the different circularity interventions to varying degrees and will experience different levels of impact. Consumable applications are limited to circularity levels of up to 69% by 2040, largely due to the single-use, disposable nature of many plastics and the prevalent throwaway culture. Durable applications, by contrast, could achieve circularity levels of up to 87%, though there is still room for optimisation particularly through greater reuse, elimination of unnecessary plastics, and a shift to sharing models.

This study further highlights that solutions must go beyond reusing and recycling plastic, to include fundamentally “rethinking” the uses of plastic through new business models and dematerialisation. It calls for a collaborative, systemic, cross-sector approach to ensure interventions are prioritised, incentivised and championed in the most effective way, to balance upstream circularity, downstream circularity, and supply-side abatement.

‘Achieving Circularity’ is available at <https://bit.ly/achievingCE>.

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NOTES TO EDITORS

About 'Achieving Circularity'

'Achieving Circularity' sets out a practical and ambitious roadmap for all stakeholders to accelerate a transition towards a circular low-emissions plastics system in Norway by 2040. It consists of two studies – '[Achieving Circularity for Single-Use Plastics](#)' and '[Achieving Circularity for Durable Plastics](#)' – as well as a Synthesis Report (Executive Summary). The first study focuses on consumable applications of plastics in packaging and household goods of a single-use nature with lifetimes of less than a year. The second study focuses on durable plastics in five sectors: construction, textiles, electronics and electricals, automotive, and fishing and aquaculture. 'Achieving Circularity' builds on the '[Breaking the Plastic Wave](#)' methodology published by Systemiq and The Pew Charitable Trusts in 2020. The work was created in partnership with Handelens Miljøfond (Norwegian Retailers' Environment Fund), while the analysis underpinning this report was supported by 16 Norwegian and international experts, and the Norwegian consultancy Mepex. Learn more at <https://bit.ly/achievingCE>.

About Systemiq

Systemiq, the system-change company, was founded in 2016 to drive the achievement of the Sustainable Development Goals and the Paris Agreement, by transforming markets and business models in five key systems: nature and food, materials and circularity, energy, urban areas, and sustainable finance. A certified B Corp, Systemiq combines strategic advisory with high-impact, on-the-ground work, and partners with business, finance, policy makers and civil society to deliver system change. In 2020, Systemiq and The Pew Charitable Trusts published "[Breaking the Plastic Wave: A Comprehensive Assessment of Pathways Towards Stopping Ocean Plastic Pollution](#)", an evidence-based roadmap that shows how industry and governments can radically reduce ocean plastic pollution by 2040. Systemiq has offices in Brazil, France, Germany, Indonesia, the Netherlands and the UK.

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

About Handelens Miljøfond (Norwegian Retailers' Environment Fund)

Handelens Miljøfond is Norway's largest private environmental fund, and Norway's most important measure for complying with the EU Plastic Bags Directive. The fund supports national and international projects that reduce plastic pollution, increase plastic recycling, and reduce the consumption of plastic bags. The fund's vision is to promote a circular plastic system and a pollution free environment.

<https://handelensmiljofond.no/>

About Mepex

Mepex is a Norwegian independent consultancy firm specializing in waste management, recycling and circular value chains. The aim is to be a catalyst for change, contributing to making the circular economy a reality through resource-efficient and climate-friendly solutions. Mepex combines analytical competence with extensive experience in design, construction, and operation of waste management infrastructure to support authorities, municipalities, organisations, and businesses in formulating strategies and achieving their environmental goals. <https://mepex.no/>