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Support for the recycling industry is urgently needed

Professor **Edward Kosior** is never one to mince words. In the article below, he calls for dynamic action in the shape of 'bold and far-reaching commitments and frameworks to support Europe's transition to a circular economy for plastics'.

The President of Plastics Recyclers Europe, Ton Emans, was brutally clear at this year's PRSE address; the plastics recycling sector in Europe has hit a wall at the very time when it is most needed to deliver a circular economy for plastics.

The underlying issues fueling this crisis are well known. From low virgin resin prices in China and low cost recycled materials being imported into Europe through to reduced uptake of European recycled plastics and lack of action by European politicians in levying penalties for non-compliance of regulations – the odds have been increasingly stacked against the recycling industry.

The whole focus for the circular economy is to reduce the use virgin plastics in the local economy. Exporting end-of-life plastics to other countries for local processing and importing recycled plastics from overseas sources doesn't really achieve the goal that is at the heart of the circular economy.

Yet these issues can be changed. And they certainly must be urgently addressed.

The consequences of Europe halting recycling and resorting to importing new plastics are well known, from mounting emissions due to loss of circular economy benefits; reverting back to the linear system of take-make-dispose would be both environmentally and economically disastrous.

The implications of staying on the current pathway to plastics production of 800 Mtpa by 2040 (with 75% coming from China and SE Asia) and importing recycled plastics into the European market is, that current

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European end-of-life plastics would have no pathway to recycling and would either be burnt, landfilled or exported.

The recycling sector is at a perilous crossroad. Ground-breaking progress has been achieved over the last few years, from improved collection and cutting-edge sorting amplified by AI's potential, to innovative technologies emerging globally to recycle post-consumer plastic packaging back to high-value and food-grade resins.

Paradigm shift in European recycling

We are in fact on the verge of a paradigm shift in the European recycling industry, but this will only occur if the European Commission becomes pro-active.

Right now, there is no real sense of urgency in accelerating the positive directions that have emerged at EU level. It has certainly been said before but bears repeating, we need the playing field for recyclers to be levelled. This starts with banning the export of plastics to ensure end-of-life plastics are recycled locally. Imported plastics must reach the same high standards expected from local recyclers both technically and with equivalent, appropriate environmental controls required in Europe. This would result in uniform EU landfill levies to incentivise recycling over landfilling.

Equally crucially we need to see a major shift in the EU Commission's mindset from the current advisory approach to full, hands-on action. This means going beyond setting targets to actively supporting investment in the infrastructure required for the plastics recycling industry and the EU Commission to achieve its Clean Industrial Deal (CID) goals.

Another area in need of urgent attention is the pace of approval for novel technologies for food-grade recycled polyolefins which is a big gap in circularity ambitions and in great contrast to the regulatory approach used in USA where there are many approved technologies for food-grade recycled polyolefins.

What the sector needs is proactive and increased support with funding to develop novel technology recycling facilities through to fast-tracking the approval process to ensure the circularity of food-contact polypropylene (PP) packaging.

FGrPP - Catalyst from transformation

Addressing the recyclability of all plastics – particularly food-grade PP – offers the best business case for expanding infrastructure and local recycling capacity. Food-grade PP, which has become as popular a packaging material as PET, yet which is only recycled at a fraction of PET's recycling rate, has the potential to be one of the most powerful catalysts for transforming the economic fate of plastics.

This is particularly so in the USA for post-consumer food-contact rigid and flexible PP packaging where only 8% of the 1.2 million tons of post-consumer PP that goes onto the market annually is recycled, as such there is an unparalleled opportunity to put this material back into the circular pathway.

PP is a major packaging material – in the UK it represents two thirds of the consumer packaging per weight and given that bottles are heavier than the PP pots, tubs and trays (PTTs) this means their volume is greater. As such it should not be ignored. It is eminently recyclable and has numerous applications.

Having said that, turning post-consumer PP packaging back into quality resins comes with its own set of challenges. Recycling this material to food-grade compliance standards is a demanding process that requires technically sophisticated equipment and a new approach in order to make high-quality food-grade rPP. This is in fact one of the key areas where government funding could have the most impact.

Developing proven, science-based processes to recycle post-consumer food-contact packaging back into rPP resins that are safe to turn back into food-grade rPP packaging was one of the fundamental pieces of the recycling conundrum. The science being applied is based on numerous investigations, measurement and tests to find out how well these compounds compare with virgin material and how well adjusted they are to specific processing techniques.

The next steps

Given that we now have this capability to introduce these high-value materials to replace virgin PP it is imperative the approval process is accelerated. Certainly, we need to have in place the due diligence, however we need to fast-track bureaucratic processes and turn recycled PP and polyolefins into commercial reality.

Furthermore, we are starting to see a trend towards the 'paperfication' of packaging as retailers shift to plastic alternatives such as paper and aluminium that might be perceived to be more "environmentally friendly" by consumers. In many instances these alternatives have a higher carbon footprint and risk complicating the recycling stream.

We need to heed Plastics Recyclers Europe's and Ton Emans' warnings – the plastics sector requires urgent support. The European Commission can no longer afford to sit back and watch, the industry needs financial support to enhance recycling capabilities, innovation should be encouraged, and barriers should be reduced. Above all we need dynamic action in the shape of bold and far-reaching commitments and frameworks to support Europe's transition to a plastics' circular economy.

The hard work has been done, we now need to drive the infrastructure forward to ensure that a vibrant and innovative recycling sector plays an active role in developing the circular economy that is just emerging.