

# Game changers: recycling in polyolefins



Cameron Roberts  
Events Content  
Manager  
ICIS

Recycling and circularity are the buzzwords on the lips of the polyolefins industry in 2020. While many companies, big and small, talk a big game about sustainability in this space, few have the combination of know-how and connections to facilitate true change,

The main challenges blocking the way to sustainability in this industry centre around the difficulty in recycling plastics with different properties; the ready availability and price of virgin materials when compared to their recycled counterparts.

While these challenges put off many businesses, it is vital that the industry as a whole moves towards the goal of sustainability; it is becoming a requirement for consumers – rather than a ‘nice to have’. Companies that do not have a recycling and circularity strategy in place may be left behind in a market which is ever-more environmentally conscious.

I spoke with key experts in attendance at the upcoming ICIS World Polyolefins Conference, to find out some practical ways that recycling can be included in a polyolefins business. Check out their thoughts and discover the first steps on this path to a more sustainable industry.

*All experts contributing to this whitepaper will be attending the 9th ICIS World Polyolefins Conference this April, read the green text to find out what they will be speaking about – attend the event to find out more!*



Mark Victory  
Senior Editor  
Recycling,  
ICIS

Sustainability in polyolefins is a key trend for 2020, our expert trainers at the upcoming **Recycled polymers training course**, gave their perspectives on how the increased drive for circularity will impact the market in the coming months.

“Beyond the need for collection rates to increase – which impacts across all recycled polymers – the major current limitation for recycled polyolefins is the lack of food-grade material.

“Among European Food Safety Authority (EFSA) requirements for food-grade approval is the stipulation that 95% of the recycled content in a food-grade pellet must have originated from a food-contact source.

“For materials such as polyethylene terephthalate (PET) where the major source of post-consumer collection is used plastic bottles, this is relatively easy to ensure. For materials such as polyolefins, however, where post-consumer collection is comprised of a variety of different types of packaging waste such as domestic and household cleaners, cosmetics as well as food packaging, this represents a significant – and costly – challenge.

“There is no food-grade recycled polypropylene or recycled low density polyethylene (R-LDPE) currently being mechanically recycled from post-consumer waste in Europe.

“The UK produces some food-grade recycled high density polyethylene (R-HDPE) because its milk bottles are produced with HDPE. Most milk bottles in Europe are made from polyethylene terephthalate (PET)) and can be easily sorted and separated, but only around 100,000 tonnes/year of milk bottles are collected.

“There are also some post-industrial materials that allow for production of food-grade material such as agricultural film or packaging used to transport meat products before they reach consumer. Nevertheless, these quantities are small.”

## Regulatory changes

“Regulatory and consumer pressure against single-use plastics continues to grow. Since December alone there has been plastic tax legislation introduced in Italy, bans on single-use plastics and imported recycled material in China, wide-ranging environmental bills in France and the UK, and plans for a plastic levy in Indonesia, to name just a few.

“The result of this pressure has been Fast Moving Consumer Goods (FMCG) firms making increasingly ambitious targets to include recycled content in their packaging that exceed current availability – Nestle, for example, announced in January that it is aiming to source 2m tonnes/year of food-grade recycled polyolefins by 2025.

“As testing cycles on recycled material complete – packaging testing cycles are typically long, at around 18-months – and more players enter the market, competition for material is likely to intensify. We’re also likely to see an increasing divide – one that has already become apparent in R-PE, R-PP and R-PET – between recycled material suitable for packaging, where sustainability targets and security of supply are increasingly driving pricing decisions, and markets such as construction that remain predominantly driven by cost-saving against virgin.”





**Sophie Poelmans**  
Global Marketing  
Manager- Polymer  
Additives  
Solvay  
Technology  
Solutions  
*How can the  
industry collaborate  
to enhance  
perceptions of  
plastic?*

While many companies aim to be sustainable and invest in the circular economy, many are left without practical solutions to implement this change. Sophie Poelmans, Global Marketing Manager- Polymer Additives, Solvay Technology Solutions, detailed the reasons that companies are keen to stray away from virgin materials, as well as the framework that they will have to work to, in order to achieve circularity.

“The polyolefin industry is striving to advance the circular economy as a response to the negative effects from the plastic phobia and the Single Use Plastic bans, by increasing the reuse and recycling of polyolefin based products and the use of recyclates as raw material in order to ensure long-term sustainability for polyolefin products.

**“A sustainable supply of consistent quality recycle will be required to establish an increased usage of recycled polyolefins.”**

“Ultimately a combination of structural investments in infrastructure, a solid regulatory framework, financial incentives stimulating innovation and a sustainable supply of consistent quality recycle will be required to establish an increased usage of recycled polyolefins. If not polyolefins will become more vulnerable to being displaced by other easier to recycle materials.”

#### Product knowledge

Poelmans also extolled the virtues of using recycled/sustainable materials in packaging when it comes to customer trust. Though she was keen to point out how difficult it would be to satisfy this need with the current capacity of sustainably materials, combined with the ready accessibility and price of virgin plastics.

“Consumers nowadays are eager to play a more active role in reducing plastic waste and it’s negative impact on the planet.

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“Knowing this, in addition to the regulatory requirements, it is clear that the move to a more sustainable packaging is no longer a nice- to-have for brand owners. However, considering the low market price of virgin resins, this will not be an easy financial equation to solve and will require fundamental rethinking and collaboration across the value chain.”



**Adrienna Zsakay**  
CEO  
Circular Economy  
Asia  
*Clarify the status  
of recycling in  
Southeast Asia  
(SEA)*

Recycling in the polyolefins space must have consumer buy-in if it is to succeed, Adrienna Zsakay, CEO, Circular Economy Asia discusses how the plastics industry can gain this customer trust to become more circular.

“Research has shown that all recycling efforts eventually plateau at unknown points along the upward trajectory. The key to consumer and industry engagement is to have a strategy that anticipates the plateau then reinvigorates the population.

“The sustainability of the most widely used polymer, polyolefins, will come from a new generation of polyolefins, including:

- Plastics supplemented from chemical recycled plastics.
- The use of enzymatic technology for the development of biodegradable polyolefins of fossil origin, one which can biodegrade in soil conditions and the other is compostable, depending on the requirements of the final application.
- Additional credibility and trust will come from ISCC Plus certification, which provides traceability along the supply chain and verifies that companies meet environmental and social standards. For companies using the mass balance approach, ISCC PLUS certification verifies that the mass balance accounting follows predefined and transparent rules

“The plastics industry is in a continual process of innovation. Although there is still a long way to go before we can say we have a sustainable and circular plastics industry, there is progress.”

**“The key to consumer and industry engagement is to have a strategy that anticipates the plateau then reinvigorates the population.”**

## ICIS World Polyolefins Conference

In a dynamic time for this forward-facing industry, the World Polyolefins Conference is your source for the latest, most-relevant market insight and a meeting place for the full value chain to gather and collaborate.

Join your peers on 28 - 29 April 2020 at the Ritz Carlton, Vienna, Austria. Want to meet the experts in the whitepaper? They’ll be speaking and interacting with the industry during the workshop day on 29 April, or running training courses on 30 April.

Want to find out more? Click the button below to take a look at our agenda, we hope to see you in April!

