

Barclays Research Highlights: Sustainable & Thematic Investing

## Plastic Waste: Don't lose your bottle

With only 16% of global plastics recycled, society is under pressure to address plastic waste. We believe PET bottles are here to stay, though significant investment is required in its waste management. We expect consumer deposit schemes and emerging recycling technology to support the transition to a circular economy for PET.



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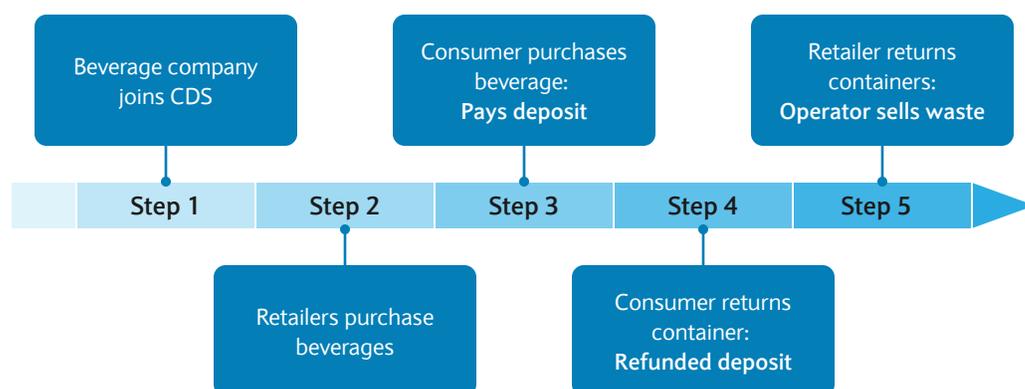
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The plastics industry is undergoing a revolution as it seeks to address the c160m metric tonnes of plastic waste which leaks into the natural environment or ends up in landfill each year, representing more than 55% of the total plastic waste produced. We view PET plastic packaging — and in particular beverage bottles — as pivotal to this issue: it constitutes more than 10% of plastic waste. However, since PET bottles provide significant advantages (weight, durability and versatility) over alternative materials, we believe that they are here to stay, unlike other single-use plastics which have been subject to widespread bans. Heightened consumer awareness is forcing companies and governments to set ambitious recycling targets, but PET waste management will have to adapt in order for these targets to be met. To boost low collection rates and poor PET recycling yields, we view a Consumer Deposit Scheme as the policy instrument of choice, further supported by emerging technology. In this report we focus on PET plastic packaging and the recycling infrastructure required to support its long-term use within the circular economy. We argue PET should be viewed as an opportunity, with the demand for high-quality recycled PET likely to incentivize investment across the PET waste management value chain.

## We believe Consumer Deposit Schemes and emerging technology will support the transition to a circular economy

### Consumer Deposit Schemes

A Consumer Deposit Scheme is a policy tool that is being considered by the UK government. They are popular as they would help boost collection rates of plastic waste and reduce the contamination of waste, which in turn improves recycling rates.



### Emerging technology

Innovative chemical and biological recycling technologies can be used to boost yield and extract value from plastic waste which would otherwise go to landfill or be incinerated. This technology will complement the improvements to recycling rates resulting from the use of consumer deposit schemes.

## Consumer, companies and regulators are also pursuing the plastic waste agenda

So far, the plastic revolution has been predominantly consumer led, after documentaries such as 'Blue Planet' (BBC), highlighted the extent of environmental damage caused by plastic waste. These consumer concerns over plastic have encouraged companies to set ambitious targets in respect of plastic recycling. We note that companies such as Coca-Cola has pledged to include 40% recycled material in their bottles by 2020 and 50% recycled material by 2025. Meanwhile regulators are mandating minimum recycled PET content in bottles: the EU will require 50% minimum rPET content in bottles by 2030. Consumer Deposit Schemes and emerging technology will be critical to help companies meet these ambitious targets.

## Unwrapping the PET issue

The PET packaging industry is currently worth over \$50bn (4% CAGR)

With 160mn tonnes of plastic waste leaching into the environment each year...



160mn tonnes

...plastic bottles have become the symbol of the Blue Planet effect

Out of all the plastics, PET is pivotal to the issue, as it constitutes >10% of plastic waste...



The 7 types of plastic



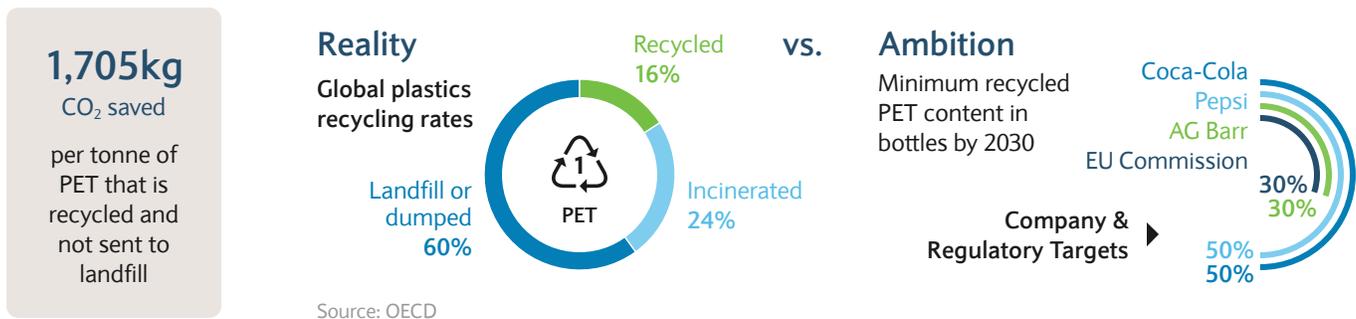
PET is here to stay...

- ✓ Lightweight
- ✓ Strong
- ✓ Cheap
- ✓ Versatile



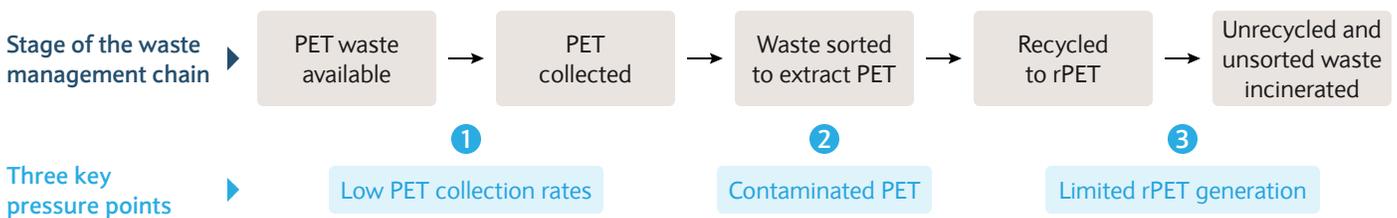
## Recycling is the way forward...

Reality vs. Ambition: Recycling rates are low when compared to ambitious targets set by companies and regulators



## ...however PET recycling rates must increase

Despite the preference for recycling PET, it is unlikely to yield 100% rPET due to three key pressure points



## Tackling PET plastic waste

Policy and tech advances to provide scalable solutions

**Policy:** All roads lead to a Consumer Deposit Scheme (CDS)  
An industry-led initiative with stakeholders across the value chain to boost collection of good quality PET waste.

**Emerging technology:** Boosting recycling rates

Emerging chemical and biological recycling technology can recycle contaminated PET that would otherwise go to landfill and/or be incinerated.



Global CDSs



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