Powder Impression Moulding (PIM):

Why PIM should be a key element of an integrated plastic waste recycling strategy.

Summary

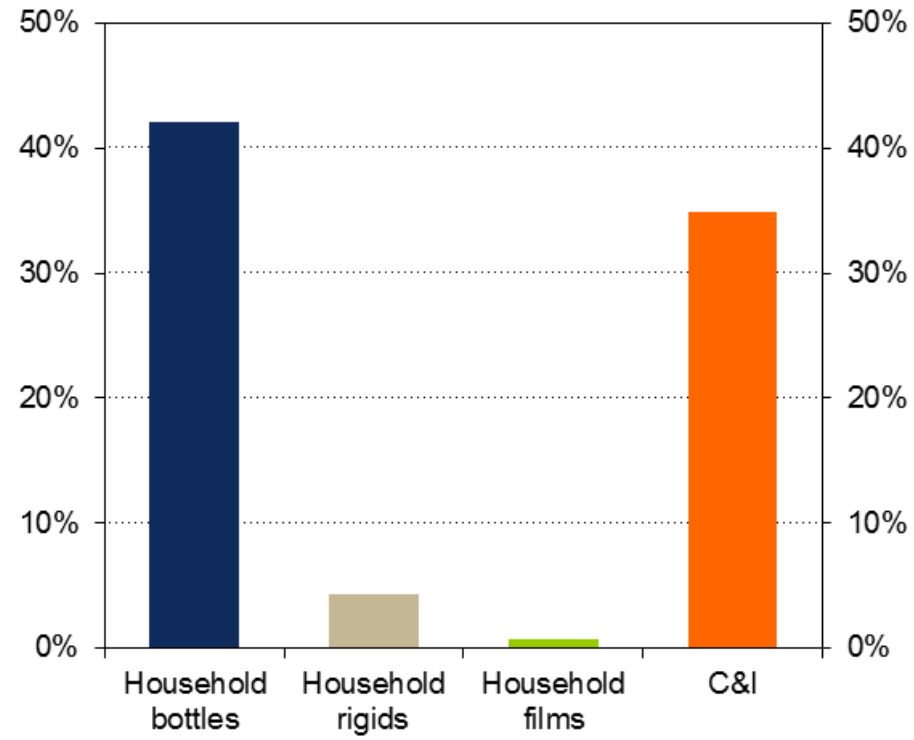
• Traditional recycling is entirely focused on separating plastics into individual polymer streams for conventional plastics processes such as Injection Moulding, Extrusion and Blow Moulding, etc

• PIM, technology is capable of utilizing mixed plastic waste which cannot be sorted in conventional plastic recycling processes.

• In future it will become increasingly difficult to rely solely upon separation technologies.

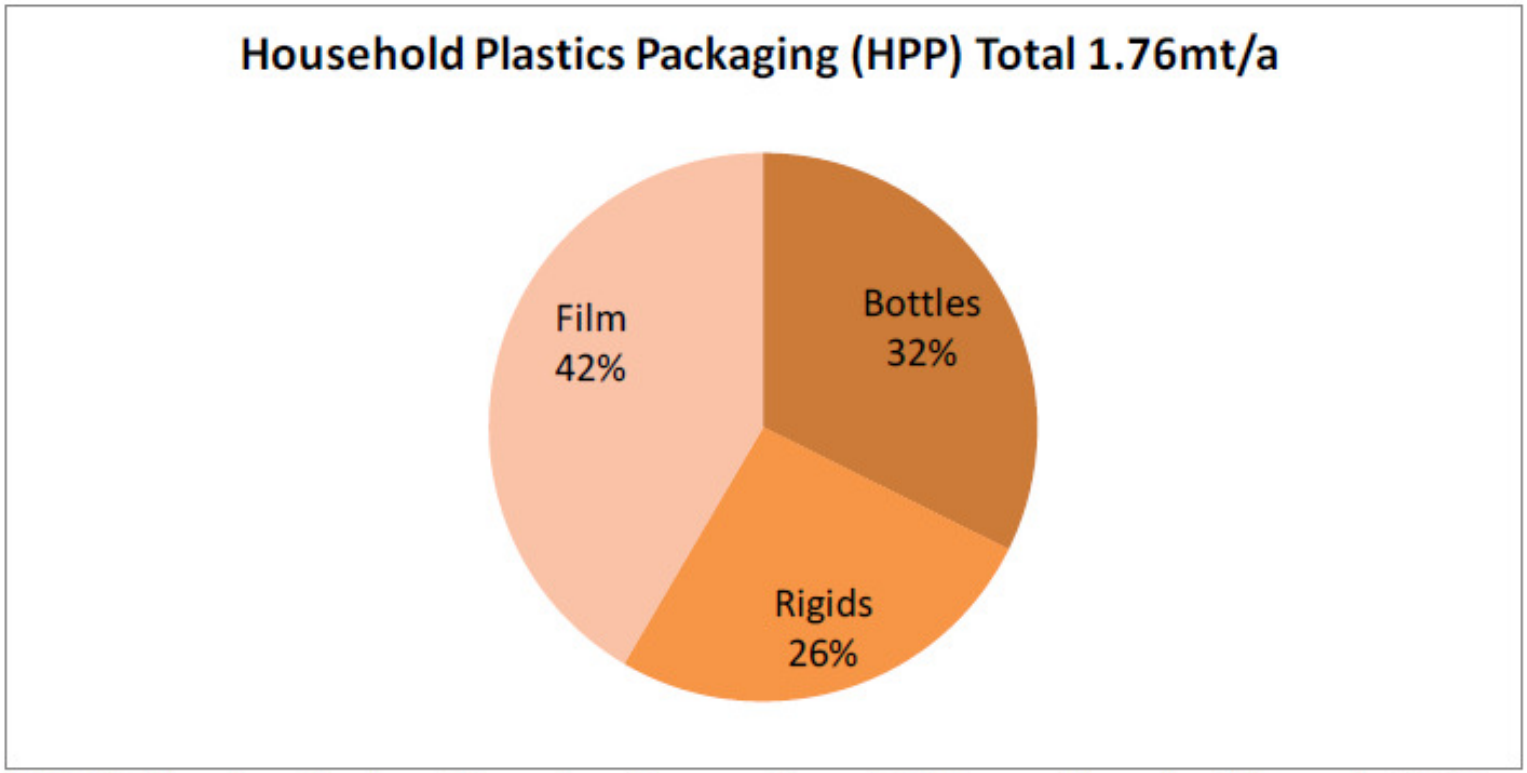
•PIM provides a sustainable opportunity to use high volumes of mixed plastic waste streams that cannot be physically or economically separated.

Plastic Packaging Recycling Rates (2009)



Source: WRAP estimates based on data from NPWD, Defra and Recoup

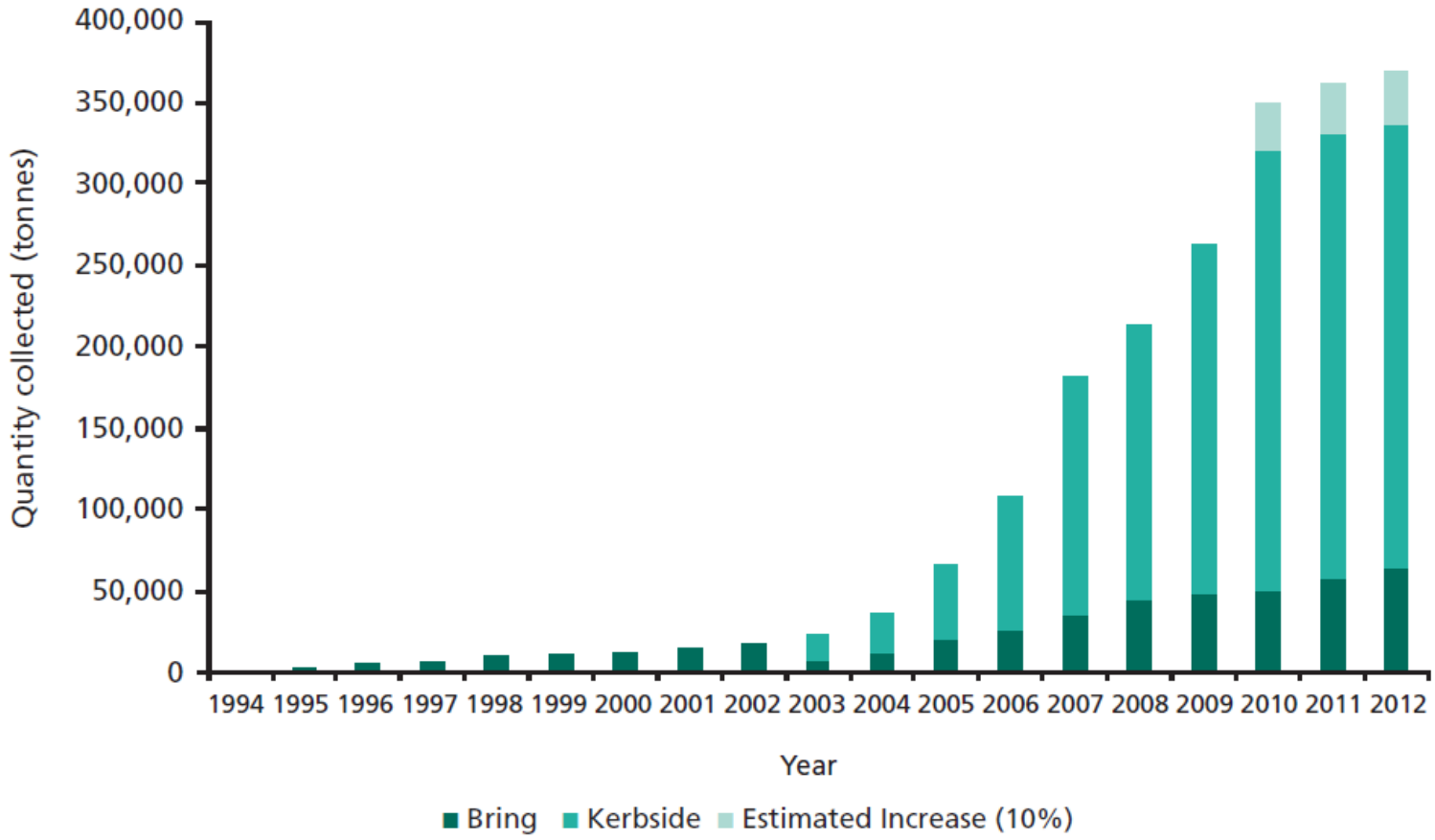
Household Plastic Packaging



WRAP Plastics Market Situation Report Sept 2010, predicted arisings in 2009

Collection Trend For Plastic Bottles

UK Plastics Bottle Recycling – 46% Collection Rate 2009



There are some big challenges ahead.....

- Estimates for 2010 plastic packaging collection rates figures predict that the increase in collection of non bottle plastics bottles is likely to be far greater than the increase in the collection of plastic bottles
- The proposed DEFRA target for bottle collection in the UK by 2020 is 75% (approx 450,000 tonnes on current volumes)
- To meet the Plastics 20/20 Challenge UK will need to collect 50% of total plastic packaging by 2020. Approximately 2.5 Million tonnes on current volumes
- Extrapolation of current trends predict that collection of bottle and non bottle plastics will probably reach similar volumes before 2020

Why we need an effective UK Plastic Recycling Sector?

- Maintain and grow public support for recycling to achieve targets
- Future proofs sustainable markets for waste plastic
- Meets objectives for low carbon manufacturing and employment
- Trans Frontier Shipment (TFS) Regulations
- To become a world leader in the development of ground breaking recycling technologies

How sustainable are the Asian markets for plastic waste?

- In 2010 UK exported 736,000 tonnes of recovered plastic to China. Equivalent of approx 100 40ft containers per day
- It is estimated that China consumed 19 Million tonnes of plastic waste
- Less than 4% originates from UK
- Less than half imported, 55% from domestic sources and growing rapidly.
- Market drivers and economic factors

Conclusion

- Plastic waste is a critical resource
- Plastics Recycling promotes low carbon manufacturing, sustainability, employment, innovation and the development of technologies which can be exported around the world
- Plastic waste ceases to be a critical resource and becomes a critical liability if global markets fail
- Incineration/Energy From Waste (EFW) is the only technology historically available for the recovery of unsortable mixed plastic waste
- PIM CHANGES EVERYTHING.....

The 2011 State Of The Nation Waste And Resource Management Report - Institution Of Civil Engineers.

- The UK will need to shift rapidly to “a circular economy” in which the waste and resources sector continues to evolve from a disposal industry into a sector which collects surplus materials and reprocesses them into commercial quality products.”
- “Driving up the quality of recycled materials emerging from UK reprocessing infrastructure is essential to achieving a sustainable shift to resource management. How materials are collected and sorted before they are sent for reprocessing is the single most important factor driving the quality of recycled and recovered materials. It also affects the viability of many reprocessing technologies.”
- “Increase the quality, not just quantity, of recycled and recovered materials. Move from the current “tonnage driven” to a “value driven” recycling culture which maximises the retention and the recovery of the value inherent in materials as they circulate around the economy.”

Source: The 2011 State Of The Nation Waste And Resource Management Report - Institution Of Civil Engineers.