Rigid Plastic Packaging in the Commercial and Industrial Sectors

Summary

Following the publication of Plastic Flow 2014 it was recognised that there was an opportunity to improve the estimated tonnages associated with rigid plastic packaging in the Commercial and Industrial (C&I) sectors.

The aim of this study, carried out by Valpak, was to further understand rigid plastic packaging and the recycling of plastics in C&I sectors in order to identify where more recycling opportunities exist. The sectors examined were hospitality, retail and manufacturing. Plastic packaging was split into two key types: bottles and 'other rigids' including all non-bottle rigid plastic packaging.

Various data sources were used and assumptions made to make an assessment of the rigid plastics Placed On the Market (POM) whilst Valpak's Recycling Services provided insight on recycling.

The results from this study are believed to be more accurate than those in Plastic Flow 2014 and give a POM for 2014 of 2,220k tonnes. The updated POM estimate should only be used indicatively.

Key findings

Compared to Plastics Flow 2014:

- POM for hospitality is lower at 44k tonnes;
- POM for manufacturing and other is slightly higher at 292k tonnes;
- Bottle waste in C&I estimated at 231k tonnes;
- Recycling of rigid plastics in C&I higher than previously estimated at 41%;
- Revised total POM for 2014 2,220k tonnes

Methodology

The methods and data sources used in this research aimed to overcome some of the issues and restrictions seen in previous studies.

Various data sources were used to quantify tonnage of rigid plastic packaging POM in each C&I sub-sector (hospitality, retail and manufacturing). This included interviews with retailers, a survey of companies in the manufacturing sectors and raw sales and packaging data for companies in the hospitality sector. For recycling information, the key data source was Valpak's Recycling Services collections data.

Learnings

Difficult market to quantify

Although anticipated as a piece of work to improve on previous estimates made for C&I plastic packaging rigids, the fragmented nature of the plastic packaging production market, and the variety of applications and wide scale use of plastic in packaging, means that no one dataset provides POM for the C&I sector. Waste arisings therefore are used as a proxy for POM but this data, particularly within manufacturing, is not easy to come by as it is not monitored or reported. The conclusion made therefore is that the best assessment of rigid plastic packaging for C&I can only be done using a combination of assumptions and insights.

Main findings

Retail

The quantity of retail back of store rigid plastic packaging waste produced in 2014 was approximately 1,200 tonnes as reported in Plastic Flow 2014. Since the majority of waste plastics in this sector is film and rigid plastics are mainly used as part of a returnable system, it is thought that there is a limited opportunity to increase recycling of rigid plastics packaging for this sector.

Hospitality

The POM for hospitality was estimated using a combination of:

- Sales and packaging data for cash and carry companies;
- Market share information for cash and carry companies; and
- The proportion of the wholesale sector that supplies hospitality.

This gave an estimated figure of 44k tonnes which is lower than the estimate made in Plastic Flow 2014 (93k tonnes). It was estimated that 75% of this tonnage is bottle and that 25% is other rigid packaging.

It was not possible in this study to estimate a recycling rate for rigid packaging for the hospitality sector despite several survey attempts.

The study did however manage to estimate that the tonnage of plastics packaging suitable for recycling, ie not contaminated with food, at approximately 27k tonnes, the majority of which are bottles.

Manufacturing and other sectors

A survey was used to try to estimate the amount of rigid plastics packaging used in these sectors. The information given on tonnage was then combined with data on company numbers and size from the ONS resulting in an estimated tonnage of 292k tonnes. This is slightly above what was previously estimated in Plastic Flow 2014 (282k tonnes) however the project team could only be 95% confident that the results sit within +/- 15% margin of error. The difference between 292k and 282k is 4% so is within this margin of error.

Recycling of rigid plastic packaging from these sectors was estimated to be 138.5k tonnes, with 66% being bottles and 34% other rigids. Due to the nature of these sectors and the size of companies it is likely that plastic waste arises in small quantities, across numerous locations making it commercially difficult to collect. The study did identify that the subsectors using the greatest amounts of rigid plastics packaging would be food and drink; tobacco; textiles; wood; paper; publishing and chemicals/non-metallic minerals manufacture. These sectors combined account for 40% of the manufacturing sector by number of businesses and it has been estimated they produce 60k tonnes of rigid plastic packaging waste that isn't recycled.

There is approximately 336k tonnes of rigid plastics packaging arising in C&I sectors and approximately 140k tonnes is being recycled. This is a recycling rate of ~ 40%.

Bottles offer a good opportunity for increased recycling with an estimated 140k tonnes available in the hospitality and manufacturing and other sectors.

In addition there is estimated to be over 50k tonnes of other rigid packaging in the manufacturing and other sectors that could be recycled.

The main manufacturing sectors where this material can be found are food and drink; tobacco; textiles/wood/paper/ publishing and