Analysis of NPWD returns to determine a position for Plastic Placed on the Market

1. Summary

i. Top down calculation of packaging data for any material is notoriously difficult and as has been indicated with glass, would seem no more accurate that a bottom up calculation using reported data.

ii. There can be no disputing that data submitted under a legal accuracy requirement from a sample of over two and a half thousand of the UK’s largest businesses must provide a more accurate basis for trend and calculation than arbitrary growth predictions.

iii. NPWD data since 2006 has shown an overall flat position until data reported in 2013 for 2012 which has shown a significant decline. There would therefore seem to be no justification for applying a fixed growth rate of the 1.5% initially determined by industry let alone the 2.5% rate applied by Defra in the 2012 consultation.

iv. There is also no apparent reason for the two step increases applied by the 2010 and 2012 consultations.

v. An assumption that reported data represents approximately 90% of total POM would seem to be supported by glass and paper.

vi. NPWD data provides no support for the 2011 estimates put forward by Defra in the 2012 consultation or Valpak in their latest Packflow calculations.

vii. A reasonable level of Placed on the Market tonnage for 2011 can be demonstrated to be in the region of 2.1 – 2.2 m tonnes.

viii. NPWD data also demonstrates that a 0% growth should now be applied.

ix. However, this should remain flexible and reviewed on an annual basis by Defra in the light of reported net pack fill data.

2. Background

i. The current figure used by Defra to report to Europe the quantity of plastic packaging Placed on the Market (PoM) is based on a study carried out by the ACP’s Data Work Group in 2005.

ii. The figure was derived from input from plastics sector trade association representatives and was put together through a process of calculation and assumption to reach a position that was considered broadly in line with the tonnage at that time.

iii. This was incorporated into a ‘Blue Book’ that was produced by the ACP for Defra as the basis on which to set targets going forward.

iv. The position in 2005 was considered to be well below the real position due to a revised flow produced by Recoup and the fact that special producer packaging became obligated (packaging that became hazardous waste). It was therefore recommended that the figure for 2006 should be increased from the previous position of 1,958,385 to 2,079,865, a jump of 9.4% on 2005.

v. The plastics industry was strongly of the opinion that the growth rate had slowed due to lightweighting and that it should be set at no more than 1.5%.

vi. However Defra determined that it should be set at 2% as it believed that this reflected a more robust position.
vii. At a 2% annual increase, this would have led to a 2011 tonnage of 2,296,339 tonnes whereas 1.5% would have led to the 2011 tonnage being 2,240,605 tonnes.

viii. For some unknown reason, the 2010 consultation on targets declared an assumption that for 2010, the tonnage place on the market had jumped by 10% from the 2005 consultation position of 2,217,258 tonnes (revised tonnage + 2% annual growth) to 2,442,000 tonnes. The consultation agreed a growth rate of 1.5% which would have set 2011 at 2,478,630 tonnes.

ix. However, the 2012 consultation then set the POM figure for 2011 at 2,515,809 tonnes with a growth rate of 2.5% although an error in the consultation saw the figure for 2013 only 1.5% higher than 2012.

x. The graph (Fig.1) below uses data extracted from NPWD dataset records and shows:
   a. Net pack fill – extrapolation from reported obligated data aligned by year to Defra POM figures ie 2012 reported data is for 2011 POM year.
   b. The stated and projected POM figures in the 2005 consultation.
   c. The stated and projected POM figures in the 2010 consultation.
   d. The stated and projected POM figures in the 2012 consultation.
   e. The figure reported by Valpak for 2011 extrapolated to their 2017 figure.

xi. In summary, the POM figure for plastic has seen regular unexplained jumps which have seen it move from a 2011 position of 2,240,605 tonnes (if the industry recommended 1.5% growth had been added from 2006) to the position put forward by Valpak of 2,535,000 tonnes. This represents an annual 4% increase over the figure agreed by the plastics industry in 2005 for 2006 implementation.

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3. NPWD

i. The data submitted by producers is aggregated into a national table and produces a gross national obligated tonnage figure against which the total PRN demand is set.

ii. However, this figure does not necessarily reflect an accurate position as it can be heavily skewed where, for instance, large amounts of ‘seller’ tonnage is lost to de minimis. It is
therefore suggested that the net pack fill position more accurately reflects total tonnage placed on the UK market.

iii. An example is glass where a comparison between net pack fill and obligated shows a significant difference (see Fig 1 in appendix).

iv. The calculations to determine the position for plastic is therefore based on the net pack fill position.

v. Fig. 2 below shows the following:
   a. The obligated tonnage derived from the national reported tonnage having the activity percentages applied through the standard data form template. This is the figure that in effect, the target is applied to each year to create PRN demand.
   c. The Defra POM figures

vi. In plastic’s case, it can be seen that obligated and net pack fill track each other very closely.

vii. The graph very clearly shows the steps up in Defra’s POM figure in 2006 and 2010 set against a broadly flat position for reported tonnage.

viii. In 2013, there are 2,638 companies that have listed plastic pack fill as their primary activity.

ix. It would seem reasonable to consider that this represents a very large proportion of the total amount of plastic packaging pack filled as in general, most pack fillers will be above the £2m turnover/50 tonne threshold. This contrasts with retailers, for instance, where a significant proportion sit below the de minimis.

x. From a trend perspective, it would therefore seem reasonable to consider that the reported pack fill sample size is more representative of UK activity than any other activity.

xi. Filled imports must also be taken into account and as indicated in Fig. 3, have increased significantly from 1998 to 2004 but have since remained relatively level. It would seem reasonable to determine that it is mainly the larger businesses that import in any scale as de minimis businesses tend to purchase from wholesalers.

xii. Pack fill exports must then be deducted and again, it seems reasonable to assess that the majority of filled exports would be by the obligated pack fill sector.
xiii. This would therefore suggest that as a basis for calculating the tonnage of plastic packaging placed on the market, the calculation should be the sum of UK pack filling and filled imports less filled exports.

![Plastic NPWD data vs Defra POM](image)

**Fig. 3**

xiv. If we assume that this represents a reasonable basis on which to assess the trend, then it would seem reasonable to assume that in each year, the amount of unreported packaging would broadly amount to the same percentage of the total.

xv. There is no valid reason why this percentage should be variable between materials as although each will have certain issues specific to material – illegal imports of glass, for instance – these are likely to represent a very small proportion of the total.

xvi. The latest glass exercise conducted by Valpak produced a POM figure of 2.4-2.5m tonnes for 2011 depending on the inclusion of illegal imports.

xvii. The net pack fill figure represents 89-92% of those two figures.

xviii. The position for paper in 2011 was 95%.

xix. If 90% was therefore used for plastic in 2011, this would create a POM figure of 2,115,503.

xx. This is below the lowest figure shown in Fig 1 based on the 2005 calculation. However, the average growth between 2007 and 2011 in reported net pack fill data has been 0.1% as shown in Fig. 3. This despite the number of obligated companies remaining broadly level over that period.

xxi. This would therefore back up the claim that since the figure agreed by the packaging industry in 2005 on which the 2006 increased POM figure was based should, in reality, barely have moved.

xxii. This would therefore suggest the figure that Defra should be using for 2011 POM is approximately 2116k tonnes.

xxiii. 2012 net pack fill data – reported in 2013 – has actually fallen by 3% over 2011. This would then suggest that at the very least, 0% growth should be built into the forward POM figures for plastic.

xxiv. However, it is recognised that some margin of fluctuation of reported data may be attributed to other factors such as high PRN prices which tend to lead to small reductions in reported tonnage.
Fig. 4

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