

## 6. Comments on Data

The following remarks will explain the backgrounds of the single cost steps completed by evaluated or definite information about the key cost drivers at every stage of the cost chain by weight (importance) of drivers.

### Container cost:

- ⇒ For steel and aluminium cans the key cost drivers are:
  - Raw material prices
  - Efficiency of can making.
  
- ⇒ Today, 0,5 litre PET bottles for CSD have an optimised weight between 13,5 g to a maximum of - in some cases - 27 g. In 2005 the minimum weight was about 20 g. The resin reduction was considerably, saving of about 33 % in four years. Although there are some tolerances both at the low and the high price level they can be neglected.

Key cost drivers are:

  - Resin price
  - Preform and stretch blow moulding machinery.
  
- ⇒ PET bottles for beer for 0,5 litre sizes have now an optimised weight that is 22,5 to 26 g. During the last years considerable weight reductions of PET preforms/bottles have led to savings of the container costs. Today, plasma based coated PET bottles have a weight of just 22,5 g, multilayer PET bottles have reduced the weight from 28 to 26 g. More important are the price ranges for the different barrier technologies ending up in a rather wide price range. There are rather high costs for multilayer PET bottles depending on the number of layers (3 or 5), the type and percentage of barrier material, the preform injection moulding and bottle stretch blow moulding technology. The costs of other barrier enhancing technologies are rather similar. Against the background of a sufficient shelf life maybe barrier monolayers and plasma coatings are the most economic solutions whereas solvent based coating are more expensive. It has to be taken into account that there are ongoing

developments as far as the economy of plasma coatings, barrier monolayers as well as multilayers is concerned.

Key cost drivers are:

- Resin price
- Type of multilayer technology and number of layers
- Type of barrier material
- Output rates for barrier enhanced technologies.

⇒ For glass the raw material does not play an important role within the cost chain like it is for the other types of packaging under discussion here. The supply situation has led to considerable price increases of glass containers during the last years in Europe.

⇒ For glass bottles the key cost drivers are:  
→ Manufacturing costs.

#### **Lid and closure cost:**

⇒ For lids of steel and aluminium cans the key cost drivers are:

- Raw material prices
- Efficiency of lid making.

⇒ Closures for PET bottles for CSD are one-piece HDPE or two-piece PP/PE, PP closures. The most used closure in this market segment in Europe is the (one-piece) PCO 1810 finish taken into consideration in the cost chain. There are more or less European standards but in some countries closure prices are lower because of i.e. quality, size, weight and thread.

Key cost drivers are:

- Resin prices.

⇒ Closures for beer are more sophisticated. They are either one-piece HDPE or two-piece PP/PE, PP closures in any case containing oxygen scavengers. The most used closure in this market segment in Europe is the (one-piece) PCO 1881 finish taken into consideration in the cost chain. Apart from crown corks they are the cheapest solution. Also more expensive multilayer closures are in use.