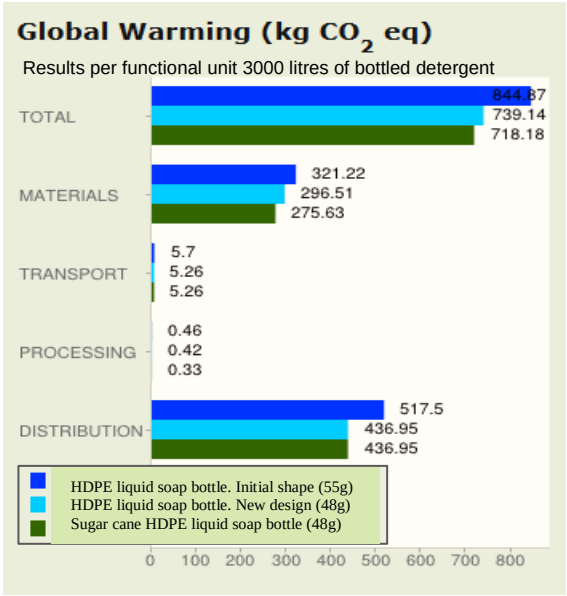
Bio-based plastics
Case study
QUIMICAS ORO S.A

Químicas ORO S.A is company located in San Antonio de Benagéber, Valencia (Spain) that produce and develop detergents and cleaning products. Químicas ORO S.A has applied LCA to go tool in order to estimate the environmental improvement of some of its new packages.

The company, decided to join the training program of LCA to go with the support of ITENE. The main goals of the company were: (a) the interest to gain the impact reduction achieved with the new redesign of the bottle as well as (b) find out about the stages with the biggest contribution to environmental impact of the packaging.



The outcomes from LCA to go tool were used in order to define main strategies for the minimization of the carbon footprint of detergent bottles.

Several ecodesign options were proposed, and tested afterwards with LCA to go tool. The most relevant options were weight reduction and material replacement of the shape of the bottle: from a HDPE to a bio-based HDPE.

The first action, which included a bottle weight reduction due a load design, achieved a footprint minimization of about 12.5%.
The next action, focused on material replacement from oil-based HDPE to bio-based HDPE, achieved a footprint reduction of 2.5 %. Therefore, both actions drove to a carbon footprint minimization of about 15%.

Amparo Expósito, Quality, Safety and Environmental technician at Químicas ORO S.A pointed out the usefulness of the tool for taking quantitative internal decisions on packaging design at an early stage of the design process.

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