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Sustainability

PET is a remarkably energy-efficient packaging material. Add to that its strength, versatility, and recyclability, and PET boasts an excellent sustainability profile.

Although the feedstocks for PET are petroleum based, the environmental impact of PET is very favorable in comparison to glass, aluminum and other container materials. PET's exceptional capacity-to-weight ratio is a key to its energy efficiency, putting more product in less packaging, utilizing less weight and less fuel for transporting.



For example, if a truck were to deliver a typical load of PET-packaged soft drinks, the liquid soda would account for approximately 93% of the load weight, with the PET bottles account for the remaining 7%. By comparison, if the same truck were to deliver the same amount of soda packaged in glass, the soda would account for 57% of the load weight, and the glass bottles would account for 43%.

PET: A Responsible & Sustainable Use of Oil

There's a common misperception that plastic uses a large amount of the world's petroleum.

Less than 4% of the world's oil production goes to produce all types of plastics, with PET accounting for less than ½ of 1 percent.

Because PET is fully recyclable, it's a highly sustainable material. Every time a PET container is recycled, its petroleum feedstocks can be recaptured and reused.

Ongoing advances in technology continue to decrease the weight of PET containers and to boost its energy efficiency even more. In 1980, a two-liter PET bottle weighed 68 grams. Today it weighs only 47 grams, and the "lightweighting" of PET containers continues to improve.

Recycling Adds to PET's Sustainability

The outstanding recyclability of PET further enhances its sustainability, providing an effective and efficient means of recapturing and reusing the energy and resources of its raw materials.

Although many Americans assume PET can only be recovered and recycled into non-food items such as carpet, clothing and engineering applications, technological advances over the past decade have made it possible to create recycled PET that meets the same hygienic and safety standards as virgin PET.

The closed-loop recycling of used PET bottles into new food-grade PET containers is one of the most desirable means of dramatically extending the environmental benefits and sustainability of PET as a packaging material.

Positive Life Cycle Studies

Life cycle studies of PET's energy use and greenhouse gas emissions have consistently shown that PET offers an outstanding eco-profile among packaging materials. A 2005 German life cycle analysis found that PET beverage bottles reduced energy consumption and greenhouse gas emissions by half in comparison to glass or metal containers.¹

A 2007 U.S. study found that PET bottles generated lower levels of greenhouse gas emissions, required less energy and resulted in less post-consumer solid waste than a bioplastic known as polylactide or PLA.²

Another life-cycle study in 2009 found that PET bottles used less energy, created fewer greenhouse gas emissions and generated less solid waste than glass bottles or aluminum cans.³

It's important to remember that even the best of life cycle studies are imprecise and subject to disagreement. They're unable to take into consideration every aspect of a material's environmental and economic impact, and by their nature, rely significantly on assumptions, averages and mathematical extrapolations.

Nevertheless, the consistently strong performance of PET in numerous life-cycle studies confirms the positive eco-profile and sustainability of PET.



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