

The Footprint of Plastic Bags

Randolph S. Jeremiah
Environmental Protection Society, Malaysia
E-mail: epsm@tm.net.my

The Earth is already in a state of ecological overshoot. Our communities have grown rapidly over the last 100 years, matched by a growing consumption of goods and services. Our Ecological Footprint is now more than 23% of what the earth can produce sustainably¹.

The plastic bag was only introduced in the 1970's but its use has expanded due to its high versatility. The plastic bag is an efficient way to carry goods. It is hygienic, light in weight yet considerably strong. Plastic bags can be easily produced and made into different forms, shapes, sizes and colours.

Plastic bags are made from both natural gas and petroleum. In total, the production of plastics account for only 4% of world oil consumption². An even less amount of this is used for the production of plastic bags. In terms of its energy, it takes 0.48 mega joules (MJ) to produce one high-density polyethylene (HDPE) plastic bag³.

Taking into account its energy consumption, about 1 square meter of natural land is required to absorb the greenhouse gases generated from the production of about 14 HDPE bags. Each year, over 500 billion to 1 trillion plastic bags are consumed worldwide⁴. We would need to set aside a natural area almost the size of the state of Sabah just to absorb the greenhouse gases generated from the production of all these plastic bags.

Although plastics can be recycled and reused over again, the facilities that are required to sort and process the various types of plastics separately are neither available nor economical. As such, the recycling of plastic bags is still very low and not yet a practical option in Malaysia. Even the use of paper bags is not a better environmental solution. In fact, the production of paper bags uses 60% more resources and energy than plastic bags and produces 80% more solid waste⁵.

The impact of plastic bags however goes beyond the resources and energy consumed during its production. Plastic bags that are disposed in garbage end up in dumps and landfills. It can take up to 1000 years for plastic bags to degrade and breakdown completely. Plastic bags that are improperly disposed can clog waterways and contribute towards floods. Bags that make it to the ocean are harmful to marine life. Turtles often choke on plastic bags after mistaking the floating debris for food. In addition, plastic bag litter incurs an often less visible but high clean-up and disposal cost which inflates its overall Footprint.

It may be difficult to completely remove plastic bags usage from our life and reduce its Footprint. However, we can manage this very useful product by following a common rule of reducing, reusing and if possible, recycling. Reduce the usage of plastic bags by making a habit of carrying a more durable bag when shopping. This bag could be made out of stronger plastic material or can be a simple cotton bag. Using a reusable bag over a year consumes 10 times less energy than using disposable plastic bags.

When offered a plastic bag at a check-out counter, make a conscious choice between necessity and convenience. Refuse plastic bags for items that you can carry with your own hands especially

if the distance to your vehicle is short. Plastic bags can also be reused for a variety of everyday purposes. Bags that are still clean can be used to carry and package other goods. These bags can finally be used as liners for trash bins.

The plastic bag is only one of many products that we use daily; all of which have an impact on our Earth's sustainability. We can make better use of our Earth's limited resources by reducing our dependency on products which may not be considered essential. Take a positive step towards reducing the consumption of plastic bags and help contribute towards creating a more sustainable Footprint.

References

1. Ecological Footprint – Overview, Global Footprint Network, Accessed 28 June 2008 (http://www.footprintnetwork.org/gfn_sub.php?content=footprint_overview)
2. Paper vs. Plastic – The Shopping Bag Debate, Greenfeet, 2004 (www.greenfeet.net/newsletter/debate.shtml)
3. Year Book Australia: How Much Energy is Used to Make a Plastic Bag?, Australian Bureau of Statistics, 2004 (www.abs.gov.au/ausstats/abs@.nsf/0/2498b7e0c5178282ca256dea000539bc?OpenDocument)
4. Facts and Figures Regarding the True Cost of Plastic Bags, Reusablebags.com, Accessed 28 June 2008 (www.reusablebags.com/facts.php)
5. Evaluation of the Environmental Impact of Carrefour Merchandise Bags, Price-Waterhouse-Coopers/Ecobilan, 2004 (www.ademe.fr/hdocs/actualite/rapport_carrefour_post_revue_critique_v4.pdf)