



## THE LAST WORD: Plastic Waste – ethical dilemma in a bag?

Jon Entine asks if plastic bags are really the problem they are made out to be:

Mexico City banned stores from giving out plastic bags this summer. That follows a decision by the Chinese last year to ban the free distribution of ultra-thin plastic bags, which they call “white pollution”.

Corporations are following suit. After first instituting a charge for plastic bags, Ikea ditched them completely. And now Wal-Mart has launched its latest sustainability effort, first in Brazil, where it is no longer bagging its goods in plastic as part of its so-called Global Plastic Shopping Bag Waste Reduction Programme in cooperation with the Environmental Defence Fund. It is even participating in a television ad campaign featuring a popular musician with the slogan “saco e um saco”, which translates as either “a bag is a pain in the butt” or “a bag sucks”.

The United Nations is putting its stamp on the movement. A top official for the UN Environment Programme has called for a global ban on plastic bags. “There is simply zero justification for manufacturing them any more, anywhere,” says Achim Steiner, executive director of UNEP.

Plastic bags have been one of the scourges of environmentalists since the 1970s, when they won the equivalent of the bag Super Bowl against their paper rivals because of their convenience (for the consumer) and the low cost (for grocers). It is estimated the world now consumes 500bn plastic bags annually. They represent everything that environmentalists believe is wrong with our consumerist culture: they are littered everywhere; they are made of petrochemicals, a non-renewable resource; they are disposed of in landfills; children can swallow them; and they can kill marine life.

**Hold on.** Reducing waste is a good thing. But the real question is: in the zeal to demonise plastic bags, are we trading one ecological problem for another? Does this campaign make environmental sense?

The answer is less clear than most environmentalist activists acknowledge. The UN's aggressive new stance, which grew out of an April 2009 study – Marine Litter: A Global Challenge – is a case in point. “Litter, like thin-film plastic bags, which choke marine life, should be banned or phased out rapidly everywhere,” concludes UNEP, which reported that plastic bags made up 9.4% of the world's coastal refuse.

### **Crying foul**

But claims by advocacy groups such as reusablebags.com, which blames them for the yearly deaths of “100,000 sea turtles and other marine animals [who] mistake them for food”, are just plain hokum.

“It’s very unlikely that many animals are killed by plastic bags,” says Greenpeace’s top marine biologist, David Santillo. And David Laist of the British science education project Sense and Science, agrees. “The main culprits [endangering marine wildlife] are fishing gear, ropes, lines, and strapping bands,” he says. “Most mammals are too big to get caught up in a plastic bag.”

It’s this kind of hysteria that makes the average person roll their eyes at the latest environmental cause. There is no free lunch when it comes to making environmental choices.

Reusable shopping bags, the environmentally preferable solution, just are not feasible for most shoppers, who are not about to carry around a dozen tote bags each time they visit the local Kroger or Carrefour. The choice really comes down to plastic or paper, and the ecological winner is not so clear.

There is growing evidence that the production, use and disposal of plastic bags put less burden on natural resources than paper bags. According to the US Environmental Protection Agency, it takes 70% less energy to produce a plastic bag than a paper one, and plastic bags take 91% less energy to recycle.

Life-cycle analysis – the state-of-the-art way of evaluating a product’s environmental footprint – also leans towards plastic over paper. Comparatively, plastic bags require less energy to produce. The total environmental impact depends upon the efficiency of operations at each stage and the effectiveness of their environmental protection measures. Paper is produced from trees; environmental impacts include extracting timber and processing it for paper. Plastic bags are of course produced from oil, with its own set of environmental consequences.

Both paper and plastic bags have to be transported to stores by truck, which creates emissions. It takes about seven trucks to transport the same number of paper bags as can be transported by a single truck full of plastic bags.

### **Landfill reality**

What happens in landfills, where most bags, paper and plastic, end up? Paper bags supposedly offer environmental advantages because they decompose quickly – but they do not in landfills. Although plastics do not biodegrade, modern waste pits are designed in such a way that nothing biodegrades, because the refuse is isolated from air and water to prevent groundwater contamination and air pollution. If landfilled, plastic bags are more environmentally benign than paper, as they require less space. Plastics, including bags, can be compressed to less than one half of their original volume.

Environmentalists promote biodegradable plastic bags, including some made from corn starch, which are “totally degradable”, decomposing into carbon dioxide and water in as little as 60 days, as a potential alternative. But they don’t degrade if they’re locked in landfills rather than placed in specialised composting bins, which are a rarity. And according to the European Plastics Recyclers, the additives contained in biodegradable plastics may end up polluting water supplies. Reality is messy.

Plastic bags may offer further advantages if the new technologies allowing them to be recycled continue to advance. Recycling rates for plastic bags exceed 30% in some Asian and European countries, notably Germany.

Although bans have been initiated in a few US cities, such as Malibu and San Francisco, most people in the US view the issue with indifference. Baltimore backed out on charging for bags earlier this year, and a ban in Philadelphia was rescinded. Voters in Seattle, one of America's most liberal cities, soundly rejected a bag tax promoted by anti-plastic-bag activists. But indifference is not just a US thing. The heralded ban in China is being ignored by as many as 80% of the stories, particularly in rural areas, according to a recent survey.

Reasonable people do not buy the hype that plastic bags are the evil they are made out to be by many non-governmental organisations and UNEP, and clear-thinking environmentalists do not see paper bags as a panacea. "It depends on what environmental issues you see as being more important," says Lisa Mastny, at the Worldwatch Institute. "The things you can see in your daily life tend to create more of an emotional response than the things that are in the background."

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