

Plastic To Protect Health and Common Sense on Plastic

Michael Stephen, an international spokesperson from the plastics industry, shares his thoughts and opinion on important issues impacting the bioplastics industry. Today, Michael writes about using plastic to protect health and common sense on plastic.



Michael Stephen

Using Plastic To Protect Health

The current panic about Coronavirus has focussed the attention of all of us on the need to protect ourselves and our food, air, and water, from bacteria, fungi and viruses. Plastic is by far the best material for this, and it can be made even better by making the plastic lethal to these organisms.

Good news therefore, reported in Bioplastics News yesterday, that Symphony Environmental Technologies have been granted approval by the FDA in the United States for a new type of anti-bacterial plastic bread packaging. No wonder Symphony's share price has tripled!

Not only bread bags, but Symphony have also found a way to make plastic lethal to micro-organisms, mosquitoes, and rodents in a wide variety of other applications:

- Buildings: Plastic table-tops and worktops, plastic cladding of walls, ceilings & floors, ventilation and water pipes, paint, decking etc.
- Agriculture: Greenhouse films, irrigation pipes etc.
- Clothing and accessories: Wet suits, shoes, insoles, lab coats, face masks etc.
- Electronic: Keyboards, mice and mats, cell phone cases, calculators, remote controls, touch screen devices.
- Miscellaneous: Garbage sacks and carrier bags, credit, debit, and membership cards, and plastic banknotes, rubber gaskets, travel trays, play pit balls etc.
- Sanitary: Toilet seats, shower heads, shower curtains, hand dryers, bed-pans, portable toilets, soap holders etc.
- Cosmetic: Shampoo and cosmetic containers.
- Sports: Insoles, ski boots, trainers, swimming pool mats, floats, knee-pads.
- Transportation: Car, bus, train, plane interiors.

Etc. etc.

Common Sense on Plastic

It's a long time since I read anything about plastics in the mainstream press from anyone who understands the subject. A pleasant surprise therefore to read an article by John Tierney

“The Perverse Panic over Plastic” in the CITY JOURNAL published by the Manhattan Institute for Policy Research ([Link](#)).

He says “The campaign against disposable bags and other products is harming the planet and the public. Why do our political leaders want to take away our plastic bags and straws? This question is even more puzzling than a related one that I've been studying for decades: Why do they want us to recycle our garbage?”

These two obsessions have some common roots, but the moral panic over plastic is especially perverse. The recycling movement had a superficial logic, at least at the outset. Municipal officials expected to save money by recycling trash instead of burying or burning it. Now that post-consumer recycling has turned out to be ruinously expensive while achieving little or no environmental benefit, some local officials—the pragmatic ones, anyway—are once again sending trash straight to non-polluting incinerators.

The plastic panic has never made any sense, and it's intensifying even as evidence mounts that it's not only a waste of money but also harmful to the environment, not to mention humans. It's been a movement in search of a rationale for half a century. During the 1970s, environmentalists like Barry Commoner wanted the government to restrict the use of plastic because it was made from petroleum, which we needed to hoard because we would soon run out of it. When the “energy crisis” proved a false alarm, environmentalists looked for new reasons to panic.” In any event plastic is made from a by-product of oil, which would be extracted even if plastic did not exist.

“They denounced plastic for not being biodegradable in landfills. They blamed it for littering the landscape, clogging sewer drains, and contributing to global warming. Plastic from our “throwaway society” was killing vast numbers of sea creatures, according to Blue Planet II, a 2017 BBC documentary series that became an international hit. Celebrities and politicians photographed with the wrong beverage container or straw now endure online “plastic-shaming.”

“Like the recycling movement, the plastic panic has been sustained by popular misconceptions. Environmentalists and their champions in the media have ignored, skewed, and fabricated facts to create several pervasive myths.

Some plastic discarded on land does end up in the ocean, but very little of it comes from consumers in the US or Europe. Most of the labels on the plastic packaging in the Great Pacific Garbage Patch came from Asia, ... and virtually all the rest from Africa and South America. Developing countries don't yet have good systems for collecting and processing waste, so some of it is simply dumped into or near rivers, and these countries' primitive processing facilities let plastic leak into waterways.” Until these systems improve dramatically the answer is to insist that all this plastic is made oxo-biodegradable, so that it will quickly become biodegradable and be recycled back into nature by the bacteria.

“When you recycle plastic, you prevent it from polluting the oceans? This myth is based on the enduring delusion that plastic from kerbside bins can be efficiently turned into other products. But sorting the stuff is so onerous and labor-intensive—and the resulting materials of so little value—that recycling post-consumer plastic is hopelessly unprofitable in the United States and Europe. Municipalities expected to make money selling their plastic waste to local recyclers, but instead they've had to pay to get rid of it, mostly by shipping it to Asian countries.

At the rudimentary recycling plants in Asia, some of the plastic waste leaks out into the environment, and much of the imported waste doesn't even reach a legitimate recycling plant. Journalists and environmentalists have been collecting horror stories in Malaysia and Indonesia of Western plastics piling up at illegal dumps and spewing toxins when they're burned in backyards. The people living near the dumps and recycling operations complain that foreign plastics are fouling their air and polluting their rivers.

The good news is that these countries are starting to share China's reluctance to accept the stuff from our recycling bins. Waste managers in America and Europe lament that their warehouses are overflowing with bales of plastic recyclables that nobody will take off their hands, and they've been forced to send the bales to local incinerators. It would have been smarter to do that in the first place instead of running a costly recycling program, but at least they're preventing that plastic from polluting the ocean.”

Single-use plastic bags are the worst environmental choice at the supermarket? Wrong: they're the best choice. These high-density polyethylene bags are a marvel of economic, engineering, and environmental efficiency: cheap and convenient, waterproof, strong enough to hold groceries but so thin and light that they require scant energy, water, or other natural resources to manufacture and transport. Though they're (politically) called single-use, surveys show that most people reuse them, typically as trash-can liners.

Once discarded, these bags take up little room in a landfill, and the fact that they're not biodegradable is a plus, not a minus, because they don't release methane or any other greenhouse gas, as decomposing paper and cotton bags do. The bags' tiny quantity of carbon, extracted from natural gas, goes back underground, where it can be safely sequestered from the atmosphere (and the ocean) in a modern landfill with a sturdy lining.

Every other grocery bag has a bigger environmental impact, as repeatedly demonstrated by environmental life-cycle analyses of the bags and by surveys of consumer behavior. Paper bags and reusable tote bags require more water to manufacture and more energy to produce and transport, which means a bigger carbon footprint. To compensate for that bigger initial footprint of a paper bag, according to the United Kingdom's Environmental Agency, you'd have to reuse it at least four times, which virtually no one does. The typical paper grocery bag is used just once (and takes up 12 times more landfill space than a plastic one).

People do reuse tote bags, but not as often as they plan to. One survey found that consumers forget to bring the bags to the supermarket nearly half the time. To offset the initial carbon footprint of a cotton tote bag, you'd have to use it 173 times, but the typical tote is used just 15 times, so the net effect is about nine times more carbon emissions than a thin plastic bag.

So the net effect of banning plastic grocery bags is more global warming. Exactly how much more depends on which researchers' life-cycle analysis you choose, but there's definitely more carbon dioxide in the atmosphere, as Julian Morris and Brian Seasholes of the Reason Foundation concluded. Using the range of available analyses, they calculated that San Francisco's plastic-bag ban had caused the greenhouse emissions related to grocery bags to rise by at least 9 percent.

Moreover, as the Reason researchers note, those calculations understate the greenhouse impact because they're based on analyses that omitted an important factor: the need to wash tote bags to avoid contaminating food with bacteria that leaked from last week's groceries. Most shoppers don't bother to clean their bags—a study at supermarkets in California and Arizona found large numbers of bacteria in almost all the reusable bags.

If our goals are to reduce carbon emissions and plastic pollution, we can take some obvious steps. Stop forcing consumers to use grocery bags and other products that increase emissions. Stop exporting plastic waste to countries that allow it to leak into the ocean. Help those countries establish modern systems for collecting and processing their own plastic waste. Send plastic waste straight to non-polluting incinerators.

But politicians and environmentalists have other ideas. They're doubling down on their mistakes by banning more plastic products and demanding alternatives that are more expensive, less convenient, and worse for the environment. Even experts familiar with the facts succumb to magical thinking. Yes, they acknowledge, we shouldn't be exporting our plastic waste to Asia, but the solution is to recycle it at home. And yes, that's impractical today, but everything will change after we create a "circular economy," which merely requires a transformation of society. Guided by wise central planners, manufacturers will redesign their products and retool their factories so that everything can be reused or recycled, and consumers will

painstakingly sort everything into just the right recycling bin, and we will all live happily ever after in a world with “zero waste.”

This fantasy isn't merely a waste of time and money. It is interfering with practical solutions to dealing with plastic pollution.This shift in priorities has hampered the development of effective waste-management systems that would keep plastic out of the oceans, according to Mikko Paunio, an epidemiologist in Finland who has studied public-health programs in rich and poor countries around the world.

“Ideologically motivated environmentalists in the 1980s and their dreams of recycling and a ‘circular economy’ are the ultimate cause of the marine waste problem,” he concludes, “because they have discouraged development of municipal waste schemes in Asia and Africa, and because they have encouraged developed nations to use management schemes that make it hard or expensive to deal with waste and therefore tends to ‘leak’ to the environment, sometimes catastrophically so.”

Even if the dream of a circular economy were possible, it would accomplish remarkably little, at enormous expense. Suppose a miraculous revolution occurs in consumer behavior. Suppose you used the tote bags with the lowest carbon footprint (the ones of nonwoven polypropylene) every time you went to the supermarket, and you conscientiously washed the bags with water heated by solar panels on your roof. Over the course of a year, the Reason researchers calculate, you would reduce your carbon emissions by less than the amount spewed by the typical car in two trips to the supermarket.

The plastic panic involves consumer guilt, too, but that explains just a small part of it. While recycling programs have long enjoyed broad public support (even as the economics have worsened), similar enthusiasm doesn't exist for restricting plastic. Market researchers have found that only 15 percent of consumers care enough about environmental issues to change their buying habits and that 50 percent will change only if it comes at no extra cost or hassle. Yet politicians eagerly go on banning plastic bags and looking for more ways to annoy people, like California's new law forbidding hotels from providing disposable plastic toiletries.

Today's plastic bans are even less rational than the medieval sumptuary laws, but they, too, benefit elites. Cheap plastic products have been a boon to the poor and the middle class, which just makes plastic seem even tackier to their social superiors. The old-money scions who used to join the clergy today do their preaching as green activists, and they've got the power to impose their preferences now that environmentalism is essentially the new state religion in progressive strongholds. They can lord it over the modern merchant class—the corporations desperately trying to curry social favor by touting their green credentials and making the proper financial obeisance. The plastic panic gives politicians and greens the leverage to extract contributions from companies afraid that they'll be regulated out of business. It provides fund-raising pitches for greens and subsidies for environmentally correct companies and NGOs”

Michael Stephen

Michael Stephen is a lawyer and was a member of the United Kingdom Parliament, where he served on the Environment Select Committee.

When he left Parliament Symphony Environmental Technologies Plc. attracted his attention because of his interest in the environment.

He is now Deputy Chairman of Symphony, which is listed on the AIM market of the London Stock Exchange, and is the founder and Chairman of the Oxo-biodegradable Plastics Association.

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