

Plastics Europe, Confusing Issues and Paper

Michael Stephen, an international expert on bioplastics, shares his thoughts and opinion on important issues impacting the bioplastics industry. Today, Michael writes about Plastics Europe, Confusing Issues and Paper.

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PLASTICS EUROPE

I don't think the plastics industry in Europe realises how it has been failed by its trade association, Plastics Europe, over the past 20 years – resulting in Plastiphobia – a situation in which plastic has been demonised in the public mind and single-use plastics have been banned by an EU Directive.

This is really unfortunate, because COVID-19 has shown that single-use plastics are essential to protect us and our food from microbial contamination. Worse still, the virus has shown that it can defeat the human immune system, so it is essential to destroy it before it gets into the human body. The most effective way to do this is not by spraying and wiping, but by making surfaces in contact with microbes permanently lethal to bacteria and viruses. This can be done simply and at reasonable cost with plastic, but not with any of the alternative materials such as paper, cardboard, cloth, jute, glass, or metal (except silver, which is too expensive).

To see how it can be done with plastic have a look at <https://bioplasticsnews.com/2020/07/23/symphony-environmental-first-plastic-stop-corona-virus/>

The reason why single-use plastics are being banned is not because they are too expensive, and not because they are made from fossil resources, but because the plastics industry has failed to offer policymakers a way to deal with the single-use plastic products which get into the open environment all over the world, where they lie or float around for decades. It is the sight of animals and birds entangled with plastic which has generated such monumental public concern and has created plastiphobia, leading to an outright ban.

The plastics industry could have addressed this problem, to the great benefit of themselves and the environment, by making everyday plastic products with oxo-biodegradable technology so that they would become biodegradable much more quickly and would be recycled back into nature by bacteria and fungi. However, (probably because of their internal power-structure) Plastics Europe have dismissed this technology instead of engaging with the experts in the oxo-biodegradable plastics industry and seeking to understand it better and to explain it to their members and the public. What a disaster!

They have concentrated instead on redesign and recycling, but it must be obvious that this cannot deal with the plastic which escapes into the open environment from which it cannot be collected for recycling. Nor can the problem be solved by the so-called compostable plastics, which have to be collected and taken for composting.

CONFUSING ISSUES

There are three irrelevant issues which always find their way into a discussion of oxo-biodegradable plastic, and which cause confusion. Perhaps I can clarify:

A. Composting

Oxo-biodegradable plastic was not invented for composting. It was invented to deal with plastic waste which escapes into the open environment. It does this by converting the plastic in aerobic conditions into biodegradable materials, and it is tested according to ASTM

D6954.

“Compostable” plastic is an entirely different product, which is tested according to EN13432 or ASTM D6400 to biodegrade in an industrial composting facility, not in the open environment. Actually there is no place for plastic of any kind in the composting process.

See <https://www.biodeg.org/composting/>

B. Landfill

Oxo-biodegradable plastic will degrade in a landfill where oxygen is present, but this is not necessary. This is because if plastic is in a landfill it has already been responsibly disposed of. Also anything which biodegrades deep in landfill generates methane, which is a much more powerful greenhouse gas than CO₂. Oxo-biodegradable plastic has therefore been designed so that it will NOT degrade in anaerobic conditions. See <https://www.biodeg.org/landfill/>

C. Recycling

This is not really relevant to the type of plastic for which oxo-biodegradable technology is used. See <https://www.biodeg.org/recycling-and-waste/> but the technology is not incompatible with recycling

PAPER

Isn't it better to use paper instead of plastic?

Some supermarkets (most recently Morrisons) have shifted to paper bags, but this is a worrying trend, as paper bags can have much higher environmental impacts. A 2011 study for the Northern Ireland Assembly found that paper bags generally require four times as much energy to manufacture as plastic bags, and cause 70% more atmospheric pollution. The process uses huge amounts of water and creates unpleasant organic waste. Recycling of paper is often uneconomic, and uses toxic chemicals. When it degrades, paper will emit methane in anaerobic conditions. Manufacturing paper requires trees to be cut down, but plastic is made from a by-product of oil refining which used to be wasted.

A stack of 1,000 new plastic carrier bags would be around 2 inches high, but a stack of 1,000 new paper grocery bags could be around 2 feet high. It would take at least seven times the number of trucks to deliver the same number of bags, creating seven times more pollution and road congestion.

Also, because paper bags are not as strong as plastic, people may use two or three bags inside each other. Paper bags are not normally re-used, and are useless if they get wet.

A February 2018, Life cycle assessment of carrier bags in Denmark concluded that “When factors like ozone depletion, human and ecosystem toxicity and water and air pollution are accounted for, a paper bag would need to be reused 43 times to have a lower impact than the average plastic bag.”

“There have been unforeseen consequences in the Irish Experience [taxing plastic bags] resulting in an increase in the use of paper bags which are actually worse for the environment ...” ... Ben Bradshaw, UK Environment Minister, 4 August 2006.

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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