Bioplastics NEWS

Danish Courts, Consensus and Plastiphobia

Michael Stephen, an international expert on bioplastics, shares his thoughts and opinion on important issues impacting the bioplastics industry. Today, Michael writes about Danish courts deciding it is deceptive to describe compostable plastic as biodegradable, consensus and plastiphobia.

Michael Stephen

Danish Court Decides it is Deceptive to describe “compostable” plastic as biodegradable.

2020 has been a bad year for “compostable” plastic.

In January, the industrial composters of Oregon gave 9 reasons why they did not want it

Oregon composters dont want Compostable Packaging

Then the City of Exeter UK rejected it

Then the City of Toronto, Canada

Then the SUEZ waste-management company

Then a devastating exposé on Netherlands television

Then I find that the Local Authority where I live are advising residents "You can line your food-waste caddy with plastic bags or liners, which makes it easier, cleaner and cheaper to recycle your food. You can use anything from old shopping bags to bread or salad bags – and you can continue to use newspaper or compostable liners."

Then they explain that "New machinery splits and removes the bags or liners, which are then taken to the energy-from-waste plant to be turned in to electricity." So, the food-waste is not being composted in "compostable" plastic bags. All the bags are being removed and sent for incineration.

Now, we hear that the Danish Maritime and Commercial Court had ruled on 11th November 2019 that it is deceptive to describe PLA bio-based plastic as biodegradable.

In a judgment in the case of Ellepot v Sungrow the court found that the Defendant's "compostable" PLA plant pots must not be described as biodegradable, because they are not biodegradable except in the special conditions found in an industrial composting facility.

The court therefore ordered that Sungrow be prohibited from using the following statements when marketing its PLA pots unless there is a clear statement that the pots must to be taken to an industrial composting plant:

- "100% biodegradable"
- "Fully biodegradable"
- "100% compostable"
- "Leaves behind nothing but air and water"
- "It does not leave any invisible microplastic in the soil"
- "Will leave nothing behind",

This case makes it clear that "compostable" plastic is not a solution to plastic waste which escapes into the open environment and cannot realistically be collected for composting.

Aggressive marketing has persuaded people that these bags are environmentally-friendly because they convert into compost, and major retailers are being misled, but in fact EN 13432 requires it to convert into CO2 gas within 180 days, leaving nothing of any value to the soil which could be described as compost.

For 21 reasons why "compostable" plastic is not useful

Consensus?

The Coronavirus has taught us that consensus among scientists is hard to find.

The same is true of lawyers and economists – it is said that if you laid all the lawyers/economists in the world end to end they would not reach a conclusion.

But leaders cannot wait for consensus when decisions have to be made. They have to weigh the evidence and form a view as to what, on balance, is the best course to take.

So it is with the environment. Leaders know that thousands of tons of plastic are getting into the open environment every day, and that we may soon have more plastic in the ocean than fish, but what are they doing about it? They are trying to reduce the amount of plastic we use, but the virus has taught us that single-use plastic is essential to protect us from disease, and in many countries worldwide, bag-bans are being overturned or suspended.

There is a technology which makes ordinary plastic biodegrade if it gets into the open environment instead of lying or floating around for decades, and has been used successfully around the world for more than 20 years. It has been used by the largest bakery in the western world for more than 10 years with no problems, but only a very few forward-looking governments have made it compulsory. What are the rest doing? They prefer to encourage recycling and composting, but if they think about it for a moment these will not help them to deal with plastic in the open environment which cannot realistically be collected.

So why are they not all making oxo-biodegradable plastic mandatory, and instead allowing ordinary plastic to continue in use? In some cases because they are under political pressure from multinational commercial interests who care more about their profits than the environment, and in others because there is no complete consensus among the scientists. There is however sufficient consensus to enable them to make a decision. There is consensus on the following points:

1. Ordinary plastics fragment into microplastics under the influence of weathering, but for many decades their molecular-weight remains too high to allow biodegradation .

2. Adding a pro-degradant catalyst reduces the molecular-weight much more quickly

3. The only environmental conditions necessary for oxo-biodegradation are oxygen and bacteria, both of which are ubiquitous in the open environment. Sunlight and heat will accelerate the process but are not essential

4. Bacteria found on land and sea are able to consume the low molecular-weight residues of plastic.

5. These residues are not toxic

Disagreement remains about:

6. How long it takes before the plastic becomes biodegradable. That depends on variable factors, and for that reason a broad indication only can be given as to timescale. It is known that conventional plastic fragments do not become biodegradable for many decades, but it is possible to say with certainty that at any given time and place in the open environment an oxo-biodegradable plastic item will become biodegradable significantly more quickly than an ordinary plastic item. That is the point. – Do we want ordinary plastic which can lie or float around for decades, or oxo-biodegradable plastic which will be recycled back into nature much more quickly? Of course, we don't want plastic in the environment at all, but that is not the present reality.

7. Will it fully biodegrade? It is known that plastic whose molecular weight has been reduced is much more likely to fully biodegrade than ordinary plastic. I have heard no reasons from any scientist why, once degradation has commenced, it should not continue until biodegradation is complete.

In summary therefore there is ample consensus to enable decision-makers to conclude that oxo-biodegradable plastic is better than ordinary plastic and to decide to stop plastic accumulating in the environment, by requiring it to be oxo-biodegradable. Dithering about this is no longer acceptable, because thousands of tons of plastic are getting into the open environment every day.

Plastiphobia – Sunday Times 26.4.20

By Dominic Lawson

Across the globe, the prayer goes up from every nurse and doctor in the battle against Covid-19: give us this day our daily Personal Protective Equipment. The kit has to be discarded after every patient contact, because each one can leave the gloves, visors, aprons and masks covered with the virus.

So the quantities required are colossal: between February 25 and April 18, more than a billion items of PPE were delivered to users in the UK (875 million to NHS trusts in England). There is another term for this stuff, a term that has become a synonym for ecological depravity: single-use plastics. We can thank Sir David Attenborough (though not only him) for that form of astigmatism, especially since his Blue Planet II, and its scene of a baby albatross killed by the ingestion of a plastic toothpick, described by the presenter as "heartrending".

But the planet's human inhabitants are now relying for survival on the creators of single-use plastics, and especially polypropylene: I refer, of course, to the petrochemical industry. Yes, all these products (including the synthetic rubber of one-use surgical gloves) emerge from refining oil and gas.

So come with me now (as Attenborough might say) to one of the largest petrochemical plants in the US. There, 43 employees have been working 12-hour shifts all day and night for a month, producing tens of millions of pounds of the raw materials that will end up in face masks and surgical gowns. These heroes of the global pandemic went completely unrecognised — until their prodigious efforts were recounted on local radio stations.

But what none of those reports discussed was the issue of disposal. This is rather surprising. We have been told for years that single-use plastics are an unmitigated curse, because of the way they fill the oceans and end up choking Attenborough's favourite albatross chick: yet I have not read a single story in the British press, or seen on TV, or heard on radio, anyone asking where all these billions of single-use plastic items will end up. Have we suddenly stopped caring about the birds and the fishes?

While it is true that many people have the antisocial habit of dumping their plastic bags on the sides of roads, this doesn't mean the things end up in the sea. All the peer-reviewed academic research on "plastic waste inputs from land into the ocean" show that the UK is — and was before Attenborough made the nation cry with rage against humankind — scarcely an offender at all.

In 2010 we were directly responsible for 0.21% of the globe's seaborne plastic waste. And coastal European countries (all 23 of us) were responsible for about 1% of the world's "total mismanaged plastic waste." It is true that many advanced countries have exported their plastic waste to less developed nations. To the extent that this has been a problem, the solution is either to reprocess more of this waste ourselves, or use landfill or incineration.

I see that in 2007, when Gordon Brown was the first prime minister to declare anathema on plastic bags, I wrote: "Paper bags have the reputation of being environmentally sounder, but I don't see how this can be justified. They require significantly more space in landfill, being much less compressible — and they come from trees, which we are meant to be preserving as capturers of CO2."

Did anyone listen? Certainly not the Conservative Party, which in 2015 brought in the charges for single-use plastic bags. In 2018 Michael Gove, then environment secretary, acclaimed the news that the biggest seven British retailers had reduced their annual transfer of single-use plastic bags to the public from 1.3 billion to 1 billion.

But as I noted at the time: "It turns out that more than a billion 'bags for life' are also being sold annually by British supermarkets . . . and these contain more than twice as much plastic." The evidence suggests that the result of the charge for previously free single-use plastic bags has actually been an increase in the use of plastic. And the much-vaunted cotton bags? If it's CO2 you're worried about, the Environment Agency has news for you: in terms of emissions generated in the production process, a cotton bag would need to be used 173 times before its "global warming potential" dropped below that of the equivalent required for use of those flimsy plastic bags.

But Covid-19 has brought in a completely new calculation. Plastic so-called "bags for life" (or indeed cotton ones) are now recognised as a much greater potential transmitter of infection than ones which are disposed of after just one use. In parts of America, where a number of states had followed our path, there has been a screeching U-turn. Many state governors have suspended the ban on free single-use plastic bags.

In the UK, the government has suspended the requirement on supermarkets to charge for plastic bags used for online grocery deliveries. It says that this is designed to "reduce the risk of contamination".

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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- 14/1/20 – Plastiphobia and Bioplastics Definitions
- 21/1/20 – Composting, the European Union and Unemployment
- 30/1/20 – Plastiphobia, Malaysia and a Case Against Compostables and Paper
- 7/02/20 – Coronavirus, MPs Letter, Montreal, Australia and the Dominican Republic
- 14/02/20 – Oman, MacArthur Foundation, Stifling Innovation, South Africa and Compostable Plastics
- 24/02/20 – Serbia, India, Pakistan and European Bioplastics
- 03/03/20 – Plastic To Protect Health and Common Sense on Plastic
- 10/03/20 – Plastiphobia, Singapore, Compostable Plastics, Doorknobs and Carbios
- 17/03/20 – Greening our Way to Infection, Defra Warns Against Bioplastics and Montreal

- 24/03/20 – Ditch the Plastic Bag Ban and Inn-Probio

- 01/04/20 – The Come Back of Plastic Bags, Compostable Plastic Not Wanted and EASAC
- 16/04/20 – Coronavirus and Agricultural Plastics

Interview with Michael Stephen

- Questions and Answers on OXO-Biodegradability

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