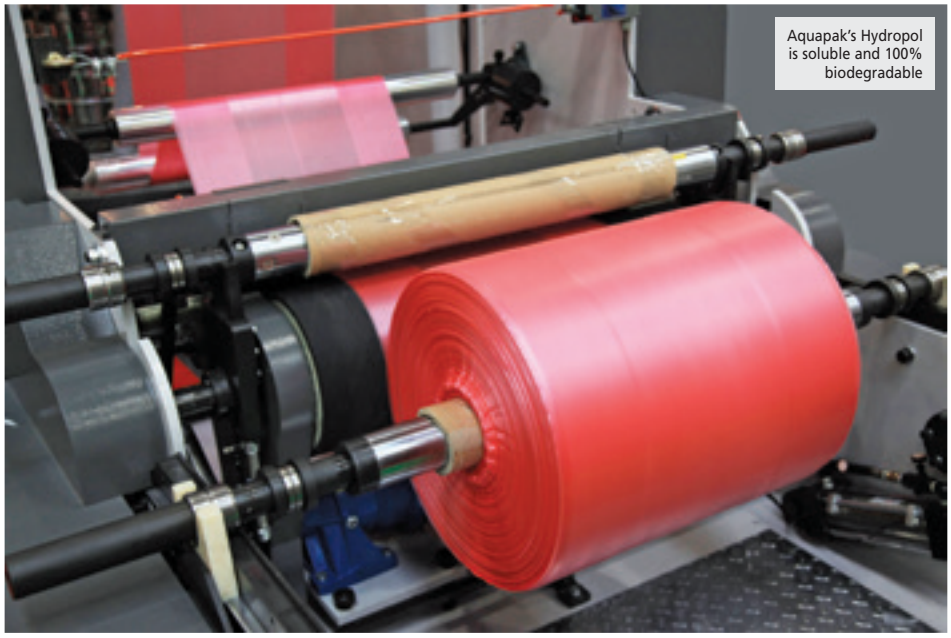
drastic about **plastic**

REGARDING THE RECENT ISSUES CONCERNING PLASTIC PACKAGING, **DR JOHN WILLIAMS** OF AQUAPAK POLYMERS ARGUES THAT WHAT WE NEED NOW IS AN INFORMED, BALANCED DISCUSSION…



Aquapak's Hydropol is soluble and 100% biodegradable

The last few months have brought plastic under the spotlight, spawning hundreds of opinion pieces about how plastic is destroying our planet. It started in October, when China announced it was banning the import of certain types of plastic waste from developed countries including the UK, the EU, the US and Japan. This was followed in November by BBC's Blue Planet II footage of a dead whale calf, with Attenborough's narration concluding – without apparent evidence – that the animal had died as a result of plastic pollution. If you missed the public outcry you must have literally been on another planet.

The New Year has already seen the launch of the UK government's 25 Year Environment Plan, with a bold aim to "end avoidable plastic waste by the end of 2042", and encouraging supermarkets to introduce plastic-free aisles. As snowballs do, this one has continued to grow. In under a week, high street supermarket Iceland was announcing its plan to go entirely plastic-free by 2023; and then finally the European Union pledged to make all plastic packaging across Europe recyclable or reusable by 2030, and to move to ban microplastics and oxodegradables (better late than never).

SEA OF PROBLEMS

The problems caused by poorly managed plastic waste are plain to see. Nobody is arguing otherwise. But as materials scientists, engineers, converters, packers, manufacturers, brand owners and retailers, it's time to draw some lines of logic in the sand.

Litter in the UK is unsightly and, with nationwide coverage of decent waste management systems, wholly unnecessary. Litter is not limited to plastics of course, but the persistent nature of plastics in the environment is indeed problematic. Only an increase in the frequency and visibility of bins, and continued behaviour change initiatives, will affect this.

Lack of recycling infrastructure is an unfortunate consequence of global resource economics. Closed Loop Recycling, the government-funded plastics recycling facility, was fated to rapid decline as the global price of oil dropped and it became cheaper to produce virgin plastic than recycled product. As a result we have an embarrassing lack of plastics recycling capacity that has now come back to bite us.

Hydropol food waste sacks

Plastic waste in the oceans has been shown to originate predominantly from developing countries, where there is often a total lack of waste management service provision. Some three-billion people around the world do not have a proper waste disposal system, and 38 of the 50 largest informal dumpsites globally are on the coast. Smarter packaging materials combined with cost-effective recycling programmes could make a sizeable impact here.

REACTIONS & RECOMMENDATIONS

We are now at a crossroads. On the one hand we recognise the urgent need to pursue circular economy models, and on the other we have ill-informed reflex reactions that threaten to throw the baby out with the bathwater. We do not need to be plastic-free. Indeed, if we were to go down that route, food waste and transport emissions would increase dramatically, and food safety would see a rapid decline. Reverting to "simple" material solutions is equally not the answer: a consumer-driven society will not embrace less choice in the name of sustainability.

The problem is that we are trying to fit a circular economy model onto plastics that weren't designed for end-of-life. Other emerging solutions such as bioplastics are relatively early in their evolution and lack scale, function and a competitive cost point.

What we need at this juncture are high-performance materials that don't harm the environment; perhaps pursuing a Smarter Plastics Aisle, employing highly functional materials that also have multiple sustainable end-of-life scenarios (biodegradable, recyclable, and benign in the environment).

SOLUBLE SOLUTION

Aquapak Polymers Ltd recently launched its smart polymer, Hydropol. Being hydrophilic, Hydropol is soluble, 100% biodegradable and non-toxic, and also 100% recyclable. Its strength makes it suitable to replace multi-material laminates in many applications, and its pellets are compatible with standard plastic manufacturing equipment, making a cost-neutral shift possible.

Such transition materials will enable positive progress that meets the needs of the consumer, the supply chain, and importantly – future generations. We need to streamline the range of polymers in use; only use those that are easily biodegradable or recyclable; and always consider end-of-life, when designing anything.

Much as we managed to phase out CFCs once viable alternatives were commercially available, we need to take a breath, look at the main drivers for change, and make sure that our decisions and actions are well-informed and do not have unintended consequences.

For now, I am sure the frenzy will continue, but I do hope that policymakers in government and decision makers in industry will agree that plastics perform exceptionally well in enhancing food preservation, health and hygiene. Let's look beyond populist rhetoric and move, consciously, towards a new plastics economy.

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