

We need to change our relationship with plastic

Report by Mick Holder

Plastic is great. It does a million jobs very well, keeps our food and drink safe, forms most of our domestic electronic gadgets and personal devices such as phones, is in our clothes, make-up and so much more. It's everywhere and it lasts for a very long time.

But..... there's a problem. As much as it helps us in day-to-day life it pollutes as well, and the issue is global in air, land and sea and the creatures living in them all. It is even inside our food and drink, our bodies and our unborn children.

Plastic debris is found absolutely everywhere, from the Arctic to Antarctica. And that isn't good as many of the chemicals used are associated with potential to harm health, many are endocrine disruptors which cause reproductive problems and some are recognised cancer agents - and cleaning all this up will need technologies we don't yet have.

Plastics production has soared since the 1950s with worldwide production reaching 390.7 million metric tons in 2021.

Less than 10% of plastic actually gets recycled, most goes to landfill or is incinerated at the end of its useful life. A huge amount ends up dumped in the sea (2,000 trucks full every day into our rivers, lakes and oceans according to CNN) and washes around our oceans and beaches.

Some have said that plastic producers have taken advantage of failed historic commitments to recycling plastic as a shield to hide behind whilst continuing to produce plastic and increase production rather than move to other products. Wealthier countries have taken advantage of poorer ones and exported their waste problems dumping them on those less capable of finding a healthy solution. Our seas carry vast amounts of discarded plastic to every corner of the globe.

Plastic has been made from coal, oil and mixtures of different chemicals which produce polymers - very long chains of molecules that are very difficult to break down completely but which do eventually break down into microscopic fragments known as micro-plastics. Many of the chemicals used in this process are hazardous in some way although when initially produced many of the polymers present no risk to health. In some products hazardous chemicals can migrate from the plastic, notably into food and drink especially if heated together.

When polymers break they can get into the food chain, wildlife, water sources, the sea, air and us. If disposed of in landfill they can leach out and if burned they produce toxic fumes needing very specialist incinerators to ensure reduction and control of waste. Historically incineration has produced hazardous waste as ash and gases. And whilst modern incinerators have improved this there are questions as to whether they ever give perfect or near perfect protection as claimed.

As with the need to reduce carbon emissions to reduce the risks from climate change, the issue of plastic hazards has been well known for a good while and we haven't acted to limit the damage, which is now shockingly extensive. So the need to act would have been better done years ago and now has similar urgency to that of the climate.

And like action on climate we know what can and should be done but convincing the key players, governments and government advisors, manufacturers, the waste industry etc has proven to be difficult.

What needs to be done is to re-focus on reduce, re-use and recycle with the focus on successful reduction on a vast scale (and not as it is currently on a failed recycling system) in ways that do not create more of a problem rather than vastly reducing it.

Finding ways to reduce plastic use is generally pretty easy. Not wrapping things that don't really need wrapping and replacing plastic with paper, card, glass, ceramic, wood, metal and more is very achievable, not without problems but do-able and the benefits gained will outweigh the down side of plastic use. There is a broader term that relates to all hazardous substance use, toxics use reduction (see link below), and which as a society should be where we start in a much needed review of how unhealthy many of the substances we use are.

Making things more re-usable, banning single use plastics, and having systems in place that encourage re-use can have a massive impact in reducing waste and pollution. And this isn't new to us as we've done this before – milk deliveries in glass bottles is a classic example, and re-use applies to all other products, not just plastic. Whilst the main focus on tackling the plastic issue must be as set out above we will still have to deal with plastic waste, albeit at a hopefully vastly shrunken level. This will mean we will need to do much better at recycling if we want to lower our reliance on burying, burning or exporting the problem – and we urgently need to do that too.

Further detail can be found in this [US report](#) on plastic use in Environmental Health News and in this BBC report [Seven](#) charts that explain the plastic pollution problem and a [paper](#) on toxic use reduction in relation work and the environment.