

Fact file: The reasons for eliminating bottled water from the University

by Richard Payne (UCU Environment Officer)



This file has been compiled to inform discussion and debate on the proposal to eliminate the sale and supply of bottled water from London Metropolitan University. UCU does not advocate a unilateral but collective decision to ban bottled water. We feel confident this will follow in the light of the compelling environmental evidence. We advocate the elimination of bottled water following a democratic decision based on clear information and open debate. It is felt this initiative will be supported when students and staff are supplied with the full facts and when a cheaper and more sustainable alternative is provided in the form of water fountains and drinking water taps.

Summary

- The consumption of bottled water world wide is rising dramatically at about 7% per year.
- Behind often extravagant marketing claims, the quality of most bottled water is usually no better and often far inferior to piped water.
- As a product it is unsustainable and costly not only to the environment but also to the consumer
- Bottled water often comes from the same public water resources as tap water; it is then sold back to us creating huge profits for multi-national corporations.
- Inflated costs for bottled water that can be 200-1000 times the amount of the same volume of tap water
- Water is the basis of life. Access to water is being controlled, limited and commodified by multi-national corporations and turned into a multi-billion dollar industry.
- Strict standards apply to piped water and almost none to bottled. It is far more likely that bottled water will contain chemical, microbial or physical contaminants.
- Corporations often have complete control over testing their water. For the whole of the USA there is only one part-time person charged with its monitoring.
- Some micro-organisms can grow to higher levels in bottled waters because bottled water is often stored for longer periods and at higher temperatures than piped water.
- Independent evidence shows that bottled water routinely contains a range of toxins.
- The manufacturing process often requires far more water than the amount of water actually in the product
- Water extraction methods can often exceed natural replenishment rates
- Water containers are derived from oil and can contain dangerous toxins that can leech into water
- Fill a bottle one fifth full of oil and this represents the oil consumed transporting bottled water large distances from its point of origin to the consumer.
- Huge quantities of water bottles go to landfills instead of recycling centres. Plastics, much from bottles, are accumulating in huge quantities in the seas and destroying marine life.

Bottled water is usually stored in bottles made of PET(E) Plastic



PETE Polyethylene terephthalate PET(E) is clear, tough, and shatterproof. It provides a barrier to oxygen, water, and carbon dioxide and is identified with the number 1. PET's ability to contain carbon dioxide (carbonation) has led its use in carbonated soft drink bottles.

According to the American Chemistry Council, PET has been approved as safe by the FDA (Food and Drug Administration) and the International Life Sciences Institute (ILSI). In 1994, ILSI stated that "PET polymer has a long history of safe consumer use, which is supported by human experience and numerous toxicity studies."

However despite these assurances from the industry and the approval of the FDA, independent scientific research has raised many concerns. Firstly the FDA does not carry out any independent analysis but relies entirely on the evidence supplied by the industry

Recent studies have shown that using and re-using of bottles made of PET can in fact be dangerous. PET was found to break down over time and leach into the beverage when the bottles were used. On the film 'Tapped' (see resources) a section is devoted to independent analysis which shows that the petro-chemical constituents of PET (toluene, styrene etc) have been linked to breast, ovarian, prostate cancer, liver damage, diabetes, low sperm count.

The toxin DEHA also appeared in the water sample from reused water bottles. DEHA has been shown to cause liver problems, other possible reproductive difficulties, and is suspected to cause [cancer](#) in humans.

<http://www.medicinenet.com/plastic/page2.htm>

The trade association for the PET plastic packaging industry, the National Association for PET Container Resources (**NAPCOR**) states its aim is 'to promote the introduction and use of PET packaging; facilitate its recycling; and communicate the attributes of the PET container as an environmentally sustainable package.' This industry body asserts

'PET is an inert plastic and does not leach harmful materials into its contents -- either when a beverage is stored unopened, or when bottles are refilled or frozen. The PET container has been safely used for many years and has undergone rigorous testing under FDA guidelines to ensure its safety as a food and beverage container suitable for storage and reuse'

Many Independent scientists refute these soothing words and assert the multi-billion dollar industry has 'captured' this trade body.

Similar health risks have been associated with the larger containers in open areas and staff rooms.

These large containers can be manufactured from BPA Bisphenol A (BPA) is a widely produced chemical used primarily for the production of polycarbonate plastics and epoxy resins. More than 6 billion pounds of BPA are produced and used each year for this purpose. The use of this chemical is so profound that it was detected in the urine in 93% of the

population over 6 years of age. The study did not include anyone under 6 years of age, so the level in their urine is unknown.

Polycarbonate plastics are typically hard and clear and are marked with the resin identification code number 7. The number 7 is considered the "other" category and includes chemicals other than bisphenol A. The health risks of BPA have been receiving considerable attention. It has long been known that previous studies done on lab animals showed that BPA can cause genetic damage.

Scientists in Germany have found that PET plastics -- the kind used to make water bottles, among many other common products -- may also harbour hormone-disrupting [estrogenic compounds](#) that leach into the water.

<http://dsc.discovery.com/news/2009/04/28/water-bottles-health.html>

There is a huge environmental impact. In this country we throw away 3 million plastic bottles every day.

Water bottles are made of PET plastic which takes 500 years to biodegrade and less than 10% is currently recycled. Bottled water is made up of water and oil - you can fill a water bottle one fifth full of oil and that represents what it takes to make it and transport it around the world. *Leeds University Student*

There is a growing awareness that the bottled water industry poses one of the most serious environmental threats we face and a growing number of colleges and university are sating ban the bottle.

This is particularly the case in the USA, Canada and Australia but also in the UK students at LeedsUniversity have adopted a ban. (See resources below 4) PRME)

Universities which have stopped sales of bottled water

Leeds University, UK.

<http://www.leedsuniversityunion.org.uk/news/article/12604/2986/>

Canada: 14 have banned bottles on campus, including University of Winnipeg, University of Toronto.

USA: dozens of universities (e.g. Washington University), colleges and schools have done the same and others are planning to stop sales

Australia: University of Canberra.

Let's join the growing campus movement against bottled water

Resources

1) WWF (World Wildlife Fund) *Bottled water: A social phenomenon, A discussion paper*, Catherine Ferrier, 2001

http://wwf.panda.org/about_our_earth/about_freshwater/freshwater_news/?2250/The-real-cost-of-bottled-water

1) Tapped-film available for loan from Richard Payne (UCU Environment Officer)

2) Story of stuff-Bottled water

<http://www.youtube.com/watch?feature=endscreen&NR=1&v=Se12y9hSOM0>

3) BBC -The food that makes billions

http://www.bbc.co.uk/worldservice/documentaries/2010/12/101215_food_that_makes_billions.shtml

4) Principles for Responsible Management Education (PRME)

<http://www.facebook.com/notes/principles-for-responsible-management-education-prme/creating-more-sustainable-campuses-banning-water-bottles/278969082139101?ref=fb>

Includes:

5) <http://www.banthebottle.net/>

6) Journey to the Pacific Garbage Patch

<http://www.youtube.com/watch?v=J65YE9hRgN8&feature=related>

7) Plastic bottles and Ocean pollution

<http://www.youtube.com/watch?v=rf5iHqT1Rzc&feature=related>