



Bottled Water

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VOICEOVER:

Bottled water is ubiquitous in our daily lives. Every year in the UK we each consume some 70 litres of purchased bottled water - whether it's fizzy, mineral or just 'purified' tap water under a different name. The market for bottled water in the UK alone has grown to over 2 billion litres a year. Worth over a billion pounds in 2003, by 2008 the market had more than doubled.

In China market growth has been even more spectacular - from a relatively tiny 400 million litres in 1991 to over 15 billion litres in 2007 - growing income levels, particularly in urban China, are leading to changing consumer behaviour. While most rural people still drink boiled water, the majority of urbanites now drink bottled water. Most people have water dispensers in their apartments and offices, and smaller bottles of water are on sale everywhere from cities to the smallest villages. And not just Chinese brands but foreign imported bottled water like Evian, Nestle, Danone and Perrier.

Worldwide consumption is estimated at over 155 billion litres a year enough water to fill 62,000 Olympic swimming pools.

That's amazing for a product that didn't really exist 30 years ago. But there is more to bottled water than meets the eye.

A bottle of water is: a plastic bottle, a plastic lid, a label, some water from a specified source, and quite a bit of embodied energy besides. Let's start with the water –where does it originate?

Every bottle carries a date code stamp from the production facility where it was bottled. This code shows the 'best before date' as well as the production lot code of the process batch when it was bottled along with many other thousands of bottles which were filled during that shift. The water may have come from a glacier or been filtered through rocks over thousands of years, but now it's likely to be extracted from a well, spring, lake, or in some cases a tap, all of which involves energy consumption for pumping, filtering and so on.

After bottling, it travels to a warehouse, and then on to wherever you might have bought it. By this time a simple bottle of water may have travelled over a 1000 kilometres and taken on a lot more embodied energy.

The lid, bottle and label are all derived from petroleum - which we see as plastics – the bottle might be P.E.T. (pee eee tee) or some other plastic. The lid is made of another type of plastic and the label is made of a kind of heat-sensitive shrink plastic. Producing a kilo of virgin P.E.T. releases about 3 kilogrammes of CO₂ .into the atmosphere.

The newly filled bottles get packaged in plastic, piled on a pallet, wrapped in shrink wrap – more plastic about 5 kilograms worth - and lifted by a compressed gas forklift truck to the edge of the factory site – each of these processes adds more embodied energy and releases more CO₂.

The long distance delivery gets made by truck, train, boat or even plane to a big warehouse and ultimately onto another truck to whatever retail outlet you purchase it from. The bottle of water is now about 18 days old, even though the water is much, much older.

So eventually this bottle of water gets to your house and maybe you even put it in your fridge to cool it down. By now it has accumulated some serious mileage and has a big carbon footprint.

Of course you may drive a hybrid car - So that reduced the energy consumption a little bit – didn't it? Well not really. Most of the embodied energy in a bottle of water is due to transporting the water.

Take a major brand of bottled alpine water for example, which is exported all over the world. You can imagine that transport accounts for most of the 'final' total of its energy footprint. When one bottle of alpine water gets to China - where it's become a popular prestige product- it's released some 250 grams of CO₂ in its travels: about 95 grams is from the plastic manufacture in China, another 5 grams or so for the empty bottle's trip from China to Europe, and another 150g for shipping the full bottle back to China.

So then you drank it. It was cold, clean, crisp and ever so fresh. But so is tap water once you cool it down a bit. But it's not the same say your guests, and it's still not the end of the road for the empty bottle.

Up to this point there's enough oil used in the production process of bottled water in the UK to heat 32,000 homes for a year – quite an opportunity cost for a product that you don't really need - and another 45,000 tonnes of CO₂ released into the atmosphere.

But that's still not the whole story – you may reuse a few bottles – we are always refilling them – but reusing them continuously isn't a great idea as toxins eventually leach out of the plastic.

Most end up in the wheelie bin – destination either: Landfill - a finite resource which is rapidly becoming exhausted, is unsustainable, costly and where the empty bottles will stay buried for millennia. Or increasingly they will be sent for incineration - leading to more pollution and more CO₂.

Even if you are conscientious and recycle your bottle, only about 1 in 4 water bottles actually end up being recycled, and, quite possibly, being crushed and chipped and making their way back to China for rebirth as furnishings, fleeces and other plastic stuff.

But sadly all too many bottles never really die – they somehow end up in the sea – floating around until they are washed up on a beach somewhere for you to moan about on your holiday!

Bottled Water - who needs it?