



## Sustainable technology: cornflake example

**In many cases, it is not obvious to the consumer what resources go into making a particular product.**

For example, if you buy a packet of cornflakes:

- The corn needs sunlight and land to grow on, but did it also use artificial fertilizers? If so, fossil fuels were probably used to manufacture those fertilizers, which then had to be delivered to the farm and spread on the land.



- What about water? Was the crop irrigated artificially, and where did that water come from? Did it deplete supplies of ground water? Was it diverted from a river, and thus not available further downstream to other farms?



- How much energy was used to harvest the corn and to transport it to the cornflake factory? How much energy and water were used in the factory, and did these come from sustainable supplies?

- What about the factory building and equipment? Concrete requires a large amount of energy, to extract and transport the aggregate and especially to manufacture the cement. Much of the machinery will be made of steel. This requires iron ore; stainless steels require significant amounts of other metals such as nickel, chromium and molybdenum, which again use large quantities of energy in the mineral extraction and conversion processes.
- The product is sold in packages. These will probably be some combination of plastic (usually made from oil-sourced petrochemicals) and card (made from trees). Even recycled paper and card require a large amount of energy and water in their manufacture.
- The goods were transported to the retailer, using yet more fuel, and more embedded resources to make the vehicle that carried them.
- And finally, how did you get to the retailer yourself? More green points if you walked or cycled — but few of us do today.

