Do useful stuff,
Create waste,
Rethink waste,
Do more useful stuff,
Try unusual stuff,
Consider options,
Gather opinions

So, you're a business and you've carried out a useful industrial process: let's say you've treated drinking water to remove traces of metals that might make it taste funny. You're finished the process and you're left with the material that made up your filter. What if it turned out that some of the materials you'd used in your water filter had other useful chemical properties?

You could send the material to a landfill site, just like you've always done- it's the legal, safe and simplest way to dispose of the materials, because the law says they're "waste." But what if you could use the materials to do something else useful?

Perhaps you would choose to test the materials thoroughly to see exactly what they can, and can't, do? You might look for applications where they could be useful. You'd probably check to see if people are happy with what you're planning to do. It's not rocket science, but it is ROBUST.

The ROBUST project is based at Durham University and is working with different organisations to investigate Manganese oxides, which are minerals that are naturally present in the soil. They can have lots of different types of chemical structure, but they're all basically made up of manganese metal combined with oxygen, and occasionally other atoms like hydrogen.

Manganese oxides are also produced during some water treatment processes and have to be disposed of as waste. The disposal process costs money, takes up space in landfills or at other disposal sites, and the manganese oxides are "lost" for good. Research in Durham and at other universities has shown that, in the laboratory, these minerals can break down pollutants like diesel and heavy oil and also lock up metal pollution, so it can't escape into the environment.

Because they're currently classed as waste, and have little or no commercial value, manganese oxides from the water treatment process might provide a cheap, safe way to clean up contaminated land.

We're investigating the possibility that the manganese oxides could be added to contaminated soils on small, low value pieces of land that might not get cleaned up any other way. These pieces of land are often found near to where people live and they can affect the health and wellbeing of local residents. On one hand, they might provide places for recreation and exercise- bits of "wasteland" where people can walk the dog, for example. On the other hand, they might cause people stress because they make an area look tatty.

In another part of the project, we'll be asking people what they think about these small pieces of waste ground, how they affect their health and wellbeing, and whether they think our idea for trying to clean them up using "waste" materials is a good one.

The answers may seem obvious when you first look. Unfortunately, it usually turns out to be more complicated than that- which is why we're doing the research...

Do useful stuff,
Create waste,
Chuck waste,
Ignore waste

Waste is an inevitable by-product of many things we choose or need to do. We also have a choice about what to do with that waste. The simple option is to chuck it in a hole, bury it and pretend it's gone away. Fingers in ears, Eyes shut, Laa Laa Laa Laa. The problem is, that's not really working any more. We're running out of holes, they're getting more and more expensive to fill and, as you might have noticed, not all waste is created equal... Perhaps it's time to investigate a different way?