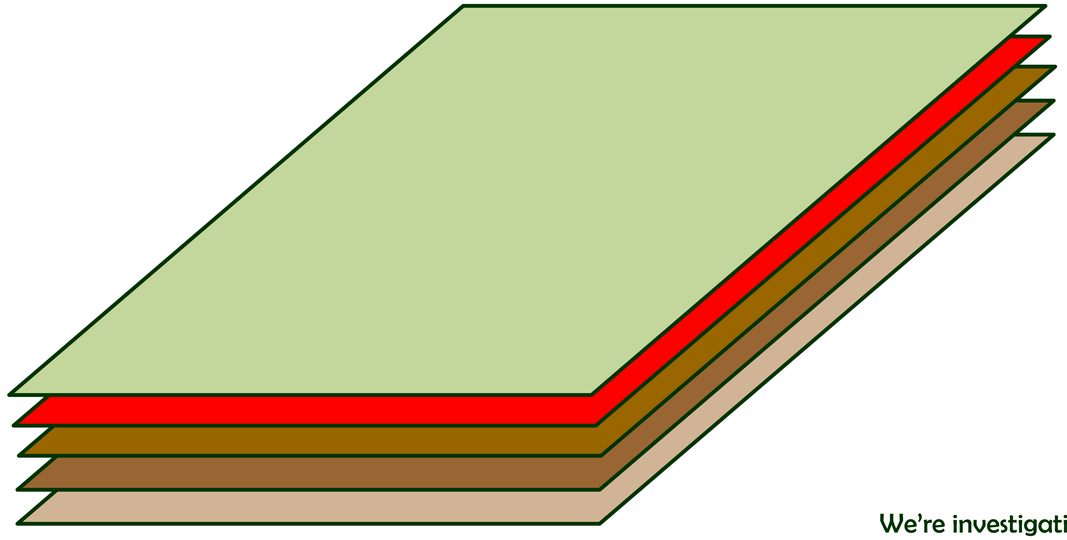
# Reduce
# Reuse
# Recycle
# Rethink?

Not all waste is created equal. Even after we've reduced, reused and recycled what we can, there may still be material left. There's no getting away from the fact that some of it might still be best off in a landfill and some might be most useful if we burn it for energy. Crucially, though, Some types of material that we call "waste" could still be useful if we rethink what we use it for...

The ROBUST project at Durham University is rethinking one type of waste from the drinking water treatment process and hopes to harness its chemical properties to clean up pollution in the soil. We're literally looking at ways to use "waste to treat wasteland."



Manganese oxides are a type of mineral that are found naturally in many soils, but are also present in some types of water treatment waste. This "waste" comes from the process of cleaning water from a reservoir before we drink it: it's not sewage or waste from "downstream" processes.

We're investigating whether we can add the water treatment waste to polluted soil and "top up" these natural supplies of manganese oxides, because laboratory studies have shown that they can help make some types of pollutant safe. The oxides appear to lock up heavy metal pollution (like lead and arsenic) so it's not accessible to humans, plants or animals. It seems to work in the lab, so we think it's worth seeing if topping up the manganese oxide levels in soils can help clean up real soils too.

New technology will only become commonplace if it works, if it's safe, and if people are happy for it to be used. We can test the first two things in the lab, but answering the third question means we have to find out what people think. We're talking to as many people as we can, and in particular, we're talking to local communities who live near to previously used land where the technology might be useful. What do you think?