



Renescence

Something from (almost) nothing: Creating value from half eaten sandwiches and yoghurt

As someone who spends a lot of time discussing the future of energy, I regularly find myself in a conference or a seminar debating about renewable energy, quite often over a cup of coffee and a sandwich. If it's a good conference, there might even be yoghurt.

Being an Ørsted employee, my conversations often centre around offshore wind and how we can further harness this fantastic resource. When the discussion progresses I become too engrossed; the coffee becomes cold, the sandwich and yoghurt are left half eaten.

By the time I leave, I hope that I've had a positive impact towards advancing sustainable energy in the U.K., but what I often forget is that my leftovers could also play their part in the renewable energy system.

When looking at energy and the resources available to us, it is obvious that we should choose a renewable resource over a finite one. What is often overlooked is that no matter what the resource is, we should make every use of what it offers. One example of this circular economy thinking, is using heat from generation that is otherwise vented in district heating schemes. Another is Renescence.

In Northwich, near Manchester, we are in the process of commissioning an innovative waste treatment plant. A first of its kind, the facility can annually take up to 120,000 tonnes of municipal solid waste (i.e. our unsorted black bin bags) and clean and separate the recyclable materials. The process also produces biogas, a form of clean energy, which is turned into enough electricity to power 9,500 UK homes.

The novel part of the process is that it uses enzymes, so sandwiches are clear candidates for feedstock. As food-soiled packaging, a half-eaten pot of yoghurt might not normally be accepted for recycling. At Renescence however, there lies a second chance. Inside the plant, the enzymes help to separate each component of the yoghurt.

“As I reflect on my waste transgressions made whilst on the conference circuit, I'm glad there is still hope for my sandwich and yoghurt to play their part in a sustainable energy system.”

The leftover yoghurt inside the pot can be digested, alongside the adhesive in the label. Even the fibres in the lid of the pot can be broken down to produce energy. The leftover, cleaned, plastic yoghurt pot is sent onwards, ready for recycling. Almost every part of that yoghurt has been repurposed, and nothing has been sent to landfill.

The first-generation plant recovers more than 90% of organic content and it has high recycling rates of more than 65% plastics and 95% metals. It generates clean electricity and nothing is sent to landfill. A true example of creating value from waste.

Latest figures have shown that in the UK over 15 million tonnes of municipal waste go to landfill each year, representing a significant lost chance to maximise the utility of resources already in our economy.

Andrew Ho, Regulatory Affairs, Orsted