

THE Re³ REVOLUTION

An Armagh-based company is revolutionising how we manage and recycle waste.

Led by Northern Ireland environmental entrepreneur, Professor Deborah Boyd, the Re³ Group has developed a new process that transforms tonnes of household and commercial waste into valuable biomass fibre – a clean, green alternative to fossil fuels.



CEO of Re³, Professor Deborah Boyd.

The company's pride and joy is a new, €15million recycling facility, in Limerick, where Re³ is not only showcasing its new technology but demonstrating that it works on an industrial scale.

Re³ says the new process is so effective that it's capable of recovering and recycling up to 85 per cent of the waste that's dumped in landfill.

"We've spent a decade researching and perfecting this system. It is a clean, green process that produces a clean, green fuel for power generation. It is a viable and cost effective alternative to landfill and incineration," says Professor Boyd.

The Re³ process uses large pressure cookers called autoclaves to transform the waste. Developed by Tom Wilson, one of the world's leading industrial engineers, 'The Wilson System' combines steam and state-of-the-art autoclave technology to produce eco-friendly Re³ biomass fibre.

Inside the Limerick plant, two giant cylindrical autoclaves slowly rotate as they are filled with tonnes of discarded waste such as newspapers, plastic bags, food, plastics, cans etc.

Once the autoclaves are sealed, it only takes a few hours for them to 'cook' and transform their contents. The process is completely self-contained.

When completed, the transformed waste – now cellulose fibre mixed with other recyclables – is carried to a sorting area where de-lacquered metals, glass, plastics and other fragments are automatically removed for recycling. What remains is golden brown biomass fibre that's ready to be pelletised for heating and power generation.

"Our autoclaving process is capable of transforming all non-hazardous municipal, commercial, industrial and agricultural based waste. It reduces the volume of waste by as much as 80 per cent," says Professor Boyd.

"We've been dumping or burning waste for decades. Now, we have a process where we can recover that waste and convert it into a renewable fuel that can be used to power our homes and businesses."

The Re³ plant, is creating up to 50 new jobs and the group is already preparing to build more facilities in Ireland and beyond.

"I believe every city and town in Ireland should benefit from Re³'s recycling technology. It increases recycling rates, reduces landfill and helps us meet European Environmental Directives," adds Professor Boyd

"We've been taking calls from all over the world and we are actively working on plans to build more Re³ recycling facilities in the USA and Canada.

"We are revolutionising waste management technology. We are also building a new global industry for a new generation and I want Ireland – north and south – to be at the forefront of that industry."



The Re³ Recycling Facility in Limerick.



Biomass fibre – the valuable end product of the Re³ Process.



Re³ biomass fibre and pellets.