A cleaner world with biofuel

Key words: **wood, bio refinery, circular economy**

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Main product: **BioFlex process**

Aim

To use any type of woody material to produce the chemicals, materials and fuels of a cleaner tomorrow

EIT Community connection

EIT Climate-KIC

The project

The idea

Our team developed a chemical process that utilises inexpensive liquid salts to separate the major components of any type of woody material. This allows us to condition biomass material to produce products like bioethanol and bioplastics. Most importantly, our process can extract and recover heavy metals from the biomass.

Inspiration

For my Ph.D. project, I worked on making the processing of biomass more economically viable. Now I want to develop the technology to be implemented in the real world.

Unique selling points

While other technologies struggle to convert wood, and especially waste wood, our technology allows us to use contaminated waste wood from construction and demolition to produce inexpensive fuels, materials and chemicals.

EIT Community support

I received part of the funding for my Ph.D. project from EIT Climate-KIC and participated in the EIT Climate-KIC Summer School. We also participated in the EIT Climate-KIC Greenhouse, Climate Launchpad, and Accelerator programmes. Through this, we received some funding and very valuable coaching.

The future

In 10 years, I want to be converting one million tonnes of waste wood every year. This sounds like a lot but only represents around 25% of the wood waste the UK produces and 1/60th of what the EU produces. A single large paper mill converts the same volume of wood into paper in one year.

The nominee

The beginning

While I was doing my Bachelor's degree in chemistry, I felt dissatisfied with the courses that focused on traditional chemical synthesis rather than innovative chemistry. This influenced my choice for a Master's programme, which I did in green chemistry, energy and the environment at Imperial College.

I have worked in the same research group ever since.

Joining the EIT Community

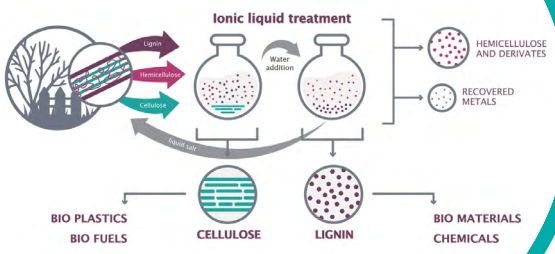
When I started my Ph.D., I met other students who told me about EIT Climate-KIC, so I got in touch with the local office. They told me all about the programme – especially the summer school – and it sounded super interesting, so I signed up that same day.

Entrepreneurial spirit

Being an entrepreneur only occurred to me during my Ph.D. through the events and programmes organised by EIT Climate-KIC. They brought it all out in me!

An ideal world

I'd remove all the plastic currently in our oceans, rivers, lakes, beaches, forests and deserts.



I learned what I didn't want to be: someone who does repetitive work.

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