Joining the Circle Activity

Circular economy models offer opportunities to businesses across all sectors. The models can improve efficiencies, reduce wate, improve product design and strengthen brand.

This activity is designed to help you identify circular opportunities within an existing business, using the 9 strategies discussed.

Read through the business description in cards below. Then, as a group, work your way through the 4 Circular Economy Accelerator worksheets.

Choose 1 member of the group to note down ideas and thoughts, focus on the opportunities and challenges.

As these are fictional businesses, feel free to think creatively. Circular economy is about system changes, be innovative and consider the long-term opportunities and impacts.

Circular Strategies

WindSoxX

WindSoxX was established in 2018, founded by 3 Strathclyde University engineering graduates that wanted to make an impact in the renewable energy sector. They concentrated their efforts on wind power, as the fastest growing renewable technology in Scotland.

All 3 graduates had placements with SSE and identified a technology that could improve turbine efficiency – developing WindSoxX.

WindSoxX is a cover for wind turbine blades, essentially a sock. It can be retrofitted to any model of turbine and improves the power output by up to 10%. The product underwent several very successful trials on windfarms across Scotland in 2018/19. As a simple solution to improving efficiency, WindSoxX market has grown rapidly since the product officially launched in late 2019.

WindSoxX now provide their solution to a number of the largest windfarms in Scotland, including Black Law Windfarm in Lanarkshire, Braes of Doune in Stirlingshire and Crystal Rig Windfarm in the Scottish Borders. The company has seen growing interest from across Europe and they have recently signed a deal with PNE Group in Germany to supply WindSoxX to one of PNE's new developments.

WindSoxX have also offered demonstrator socks to a few community owned windfarms in Scotland. The socks installed on turbine blades on the Isle of Ghia increased maximum power production from 675kW power to around 740kW power. The community owned scheme sells its energy to the grid, reinvesting profits into community projects. As a company driven by environmental and social aims, WindSoxX would like to do more of this type of work.

WindSoxX do not currently have any manufacturing capacity in the UK. Given the scale of growth, manufacture quickly moved from a small workshop in Perth to a supplier in China.

The exact makeup of materials used in manufacturing is not shared publicly. The polypropylene, nanostructured superhydrophobic (SH) powders and binders are sourced internationally.

A WindSoxX sock last around 12months on a blade before it needs replaced. The current design degrades due to UV light and performance is reduced at the coast due to saltwater erosion. WindSoxX felt the impact of this cycle in late 2020, when production had to be increased to re-issue supply to the windfarms that had installed WindSoxX in 2019.

As the design is a composite of complex materials, the socks cannot currently be recycled and are sent to landfill once removed from turbines.

WindSoxX are an ambitious company. They want to accelerate Scotland's transition to net zero through their products.

The company is currently working on a new design that will be suitable for use on offshore wind turbines. This version is in the design phase, WindSoxX would like to take it to market by early 2023.