

Waste Into Product: New Life for Ocean-Bound Plastics

Theme: **Eradicate the use of virgin plastics by designing a fully sustainable and circular value chain for ocean bound plastic.**

Introduction

Virgin plastic and its applications are responsible for a significant amount of the global pollution, both for the production as for the end-of-life aspect. Which is why eradicating the use of virgin plastics is one of the most stressing missions of modern day society. One way this can be done is by designing a fully sustainable and circular value chain for ocean bound plastic (BLUEWAVE®)!

Who is behind this initiative?

Archwey is the sustainable materials engineering group, dedicated to ensuring circularity, eradicating plastic pollution, and protecting life.

Archwey is on a mission to reshape the world's building blocks and believes that the best moment to change the way we use materials was 25 years ago. The last best moment is now. She essentially aims to rid the world of virgin plastics – full stop – this goal will be achieved through its GRS-certified plastic solution BLUEWAVE®: a thermoplastic material made from 100% upcycled ocean-bound plastic, marine plastic and recycled post-consumer plastic, collected predominantly from four of the most polluted rivers on earth.

Archwey's three companies utilise BLUEWAVE® – along with other materials, including recycled acrylic, metals and FSC®-certified wood – to supply ground-breaking sustainable solutions for the manufacturing, display, and transportation of products in fashion, retail, hospitality, and healthcare.

It's three companies consists out of:

- Arch&Hook: Transforming Fashion & Retail with Sustainable Materials (hangers, crates, furniture, etc.).
- Shieldler: Eliminating virgin plastics from healthcare, pharma & nutraceuticals (pill bottles, specimen container trays, blister packs, etc.).
- PlasticBean: The source of sustainable business; offers a variety of BLUEWAVE® R-Plastics (rPET, rHDPE, rLDPE, etc.) to manufacturing companies.

What is the challenge of a circular value chain for plastics?

This specific project entails getting innovative insights for the circular use of ocean-bound plastics which eventually would translate to a well-designed and thought through circular value-chain based.

The project would not only be diligently selecting a suitable and innovative product (one with big impact and which can be made truly circular). But aspects such as design, transport, production, legislation, waste management should also be carefully researched and determined.

Some general things to think about are:

- How, do you ensure that ocean bound plastic can properly be utilized while continuously maintaining its value by being circular?
- Which stakeholders are needed to make it a success?
- Is there need for any certification?
- What is the eventual environmental impact?
- How do you bring your idea successfully to the market?

Do all this while keeping the complete life-cycle of the product in mind, from cradle to cradle!

Relevant consideration for the challenge/theme:

Make sure that the described plastic, and its material properties, are a good fit for the product. Above all the solution needs to be realistic, circular, and innovative. A satisfactory solution would be and innovative concept for the application of ocean bound plastic which makes a significant impact in terms of reducing the use of virgin plastics!

Relevant links:

Will be presented at the Collider.