

## **From waste to resource – at a crossroad: circular fibers in the plastic and textile industries**

**Date: 31st of October 2023**

**Place: Roskilde Universitet, auditorium 25 – see map on the last page**

On October 31, 2023, Ocean Plastic Forum, Danish Fashion & Textile and Roskilde University will focus on the need for knowledge exchange and partnerships across the plastic and textile industries - both sectors face a common challenge when it comes to splitting, sorting, and recycling fibers and creating the conditions for circular production.

The EU Commission's plastic and textile strategy has set an ambitious agenda for the plastic and textile industry's transition from linear to circular production. EU has already set targets for the content of recycled plastic in new products from the plastic industry by 2030, and it is expected that the textile industry will face similar objectives, especially because the majority of the fibers used in clothing, for example, are plastic-based - and difficult to recycle. The plastic industry has been working with fiber-to-fiber recycling for decades and the textile and plastic industry are faced with a situation where both industries might compete for the same secondary raw materials but at the same time an opportunity to develop technological solutions that benefit both sectors, so that waste products from the plastic industry can advantageously be included in closed-loop solutions in the textile industry - and the other way around.

Based on a number of cases, **Ocean Plastic Forum, Danish Fashion & Textile and Roskilde University** want to focus on some of the challenges that the plastic and textile industry share when it comes to recycling fibers at the conference **"From waste to resource – at a crossroad: circular fibers in the plastic and textile industries"**. It is also the ambition to demonstrate methods and approaches where the plastic and textile industry can draw mutual inspiration from innovative technologies and materials that enable increased recycling of textile and plastic fibers.

### **Program**

9.30 **Registration and coffee/bread – Auditorium 25 – see attached plan.**

10.00 **Welcome**

*by/Marie Busck, CSR- and Sustainability Manger, Danish Fashion and Textile*

*by/Thomas Alstrup, Secretary Manager, Ocean Plastic Forum*

10.10 **Circular economy in the plastic and textile industries in Europe – how?**

*by/Lars Fogh Mortensen, expert in circular economy, plastics and textiles, European Environment Agency*

The EU Commission presented its strategy for sustainable and circular textiles in spring 2022, where one of the focus areas is to increase fiber-to-fiber recycling in the EU's industry and the spread of recycled fiber content. How far have we come, what are the biggest hurdles and how does the EU effort work together with national Danish initiatives?

- 10.40 **What common technological challenges do the plastic and textile industry face?**  
by/Kristian Syberg, Partnership for Circular Economy for Plastics and Textiles
- 11.00 **Circular recycling of plastic fibers**  
by/ Peter Buhl, Input Northern Europe & Purchasing, Plastix A/S  
Plastix A/S is a unique example of a company that has built a sustainable cycle, where discarded trawls, fishing nets and ropes are collected, the fibers are split, sorted and cut and become new nets and ropes. Plastix manages large amounts of fiber-based nets and ropes every day, where new solutions are required. Where is there a need for innovation and what does Plastix do?
- 11.30 **Case 4 Large-scale mechanical recycling of textile fibers**  
by/ Laura Jetten, Assistant Research and Development, Frankenhuis, Boer Group  
Boer Group in Holland sorts, reuses and recycles 400,000 kg of textiles every day, which are collected in Denmark, Germany and Holland among others. The recycling is done by the group's subsidiary Frankenhuis - for decades the leading and only company in Holland specializing in mechanical recycling of post-consumer textiles. What challenges are associated with running large-scale value chains in the textile sector? And what are the most promising development projects within mechanical recycling of textiles?
- 12.45 **Lunch and networking break**
- 13.15 **Large-scale separation of polyester from collected textiles**  
by/ Åsa Degerman, Senior Business Development Manager, OnceMore®, Södra Group  
The Södra Group describes its OnceMore® business as the world's first large-scale process for recycling post-consumer textile waste: Polyester is separated from cotton, after which cellulose is added, making it a mass textile industry that can be used to produce viscose and lyocell. OnceMore® can handle fractions with up to 50% polyester but wants to go further. How is it going and does OnceMore® intend to introduce technologies for separating other plastic fibers from textiles?
- 13.35 **Challenges associated with textile sorting**  
by/Mads Tage Nielsen, Regional Manager, Ragn-Sells  
Ragn-Sells is the Danish company that processes the largest amount of textiles for recycling in their new sorting hall at Prøvestenen in Copenhagen. Trained employees in textile sorting perform the initial separation into two main streams: one fraction for reuse and one for recycling, primarily at facilities in Germany and the Netherlands. What challenges are associated with establishing large-scale textile sorting facilities and what does the economy look like when participating in an international value chain for textile recycling?
- 13.55 **Case 5 Project CETEC: Chemical separation of hard plastic composites**  
by/ Andreas Sommerfeldt, Consultant PhD Environmental Technology DTI  
The CETEC project (Institute of Technology, Aarhus University, Vestas, Olin, supported by the Innovation Fund) has for the first time succeeded in breaking down and separating composite materials in wind turbine blades into fiber, epoxy and many other sub-components. Using chemical recycling, the isolated epoxy is processed into new epoxy that can be used in new wings. Vestas and the epoxy manufacturer Olin are working on a large-scale solution for separating fibers from used wind turbine blades. How far have they come?

14.15

**Future collaboration opportunities**

*by/Kristian Syberg, Partnership for Circular Economy for Plastics and Textiles, Morten Birkved, Department of Green Technology, SDU and Poul Erik Jørgensen, Program Manager, Product Design & Materials Technologies, VIA University College*

Summary, perspectives and challenges.

14.40

**Thank you for today**

*by/Marie Busck, CSR- and Sustainability Manger, Danish Fashion and Textile*

*by/Thomas Alstrup, Secretary Manager, Ocean Plastic Forum*

**Find your way to the auditorium:**

