

Get to know Renasci

Accelerating the transition
to a Circular Economy



Who is Renasci?

Renasci is the Belgian creator of the innovative Smart Chain Processing concept whereby **mixed waste is sorted and converted into raw materials** with a maximum material recovery. Renasci introduces an economically viable solution for waste treatment. Their first pilot plant is located in Oostende, Belgium.

SCP Concept

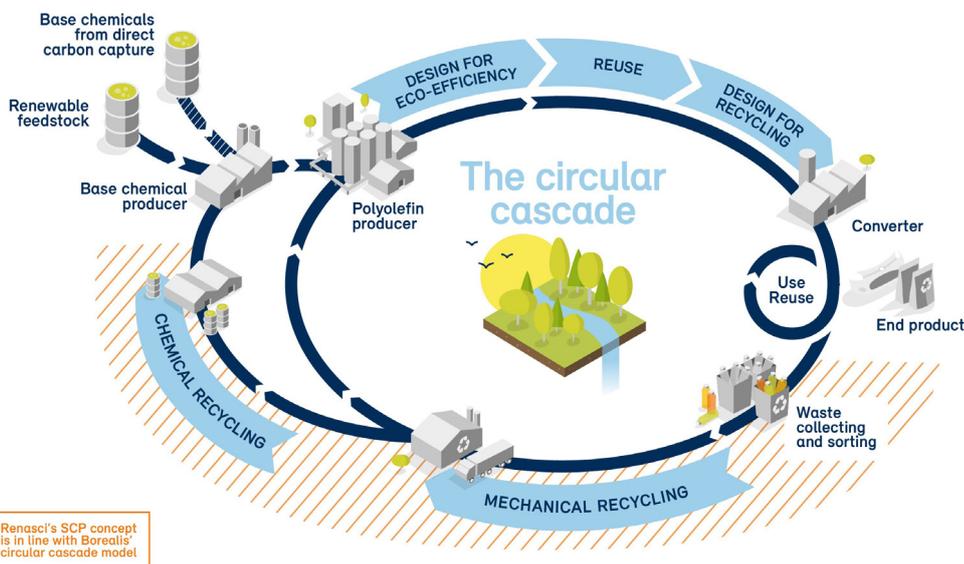
The Smart Chain Processing (SCP) concept developed by Renasci is innovative and exciting; multiple waste streams are all **processed and converted under one roof** using different recycling technologies. At the newly built SCP facility in Ostende, Belgium, mixed waste, plastics, metals and biomass are automatically sorted multiple times. After sorting, all types of recyclable waste, including plastic, are then available for **mechanically recycling**. Non-recyclable mixed plastic waste is **chemically recycled** into pyrolysis oil on site.

Other types of sorted waste such as metals and organic refuse are further processed using other technologies. Renasci strives to make useful products from all waste streams entering the plant, thereby minimising the need for incineration, and consequently reducing the overall CO₂ footprint.

The SCP concept is aligned to our ambition to close the loop on plastic waste as encapsulated in our circular cascade model.

We aim to give plastic products multiple lifetimes in the most sustainable way possible

Starting with optimising product design, first for eco-efficiency, then for re-use and finally for recycling. Once a product has reached its end of life, **we must close the plastics loop**: first with mechanical recycling to make recycled products with the highest possible value, quality and lowest carbon footprint; then utilising chemical recycling, as a complement to mechanical recycling, to further valorise residual streams which would otherwise go to incineration, or even worse to landfills, into virgin-quality recycled plastics for high demanding applications.



Project partner



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Making something valuable out of waste

- The material processed by Renasci is called RDF (refused derived fuel). The first SCP plant in Oostende can process 120 kilotonnes of waste to produce a wide range of recycled materials – including plastics, paper, metal and bio products.
- Out of 1 kilotonne of household waste, the yield for different materials is approximately:
 - Polyolefins via mechanical recycling: ~150 tonnes
 - Polyolefins via chemical recycling: ~200 tonnes
 The rest of the material retrieved is processed using other technologies which are suitable for the material.
- At 100% mass balance, the 200 tonnes of chemically recycled material can be used to produce more than 8 million ice cream containers at virgin quality.



Production at Renasci



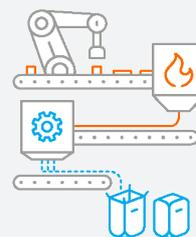
What this partnership shall bring

Borealis, having acquired a majority stake in Renasci, therefore benefits from this partnership uniting two firms in their shared aim to accelerate the transition to a circular economy by:



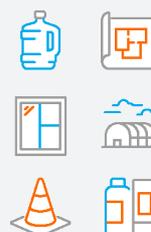
Using material recovery to create value

The valorised mechanically and chemically recycled material from Renasci shall then be processed with our **Borcycle™ recycling technology.**



Technology development

We will collaborate closely with Renasci to evolve and scale up the unique SCP technology.



Seizing other potential future joint investment opportunities to process mixed waste capturing the highest material value.

For more information about Renasci:

 www.renasci.be

 [Renasci Oostende](#)

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