MOOI project overview – ReBBloCS

'Renewable Building Blocks from Complex mixed and wet waste Streams'

1. Aim

In today's transition from a linear to a circular economy, an increasing interest - and necessity - exists in the conversion of waste streams and presently under-valorised streams into feedstock (hydrocarbons, syngas) and energy carriers (biogas, syngas, oil, heat, hydrogen). The ReBBloCS project aims to bridge the gap between 1) the demand for renewable building blocks, 2) current underutilization of waste streams, and 3) the required combination of conversion, separation, and purification technologies, with the result to generate valuable renewable building blocks (circular bulk- and platform chemicals).
Together with her network partners: waste 'owners', end users of (renewable) building blocks, and a diversity of technology providers, the Institute for Sustainable Process Technology (ISPT) identified concrete challenges of the industry and the potential technological and non-technological paths towards solutions. The consortium of this MOOI project will be working coherently on both the technological and non-technological challenges, which are described below.

2. Challenges

The main technological challenges in the process of converting waste into bulk- and platform chemicals are two-fold. Firstly, the presence of (micro)contaminants (e.g. heavy metals, minerals, traces of medicine) in waste material, hindering its conversion and use in renewable building blocks. Secondly, many waste streams are still not suitable for conversion into building blocks due to their heterogeneity, high variation, and often low and variable amounts. Especially mixed and wet waste streams are difficult to separate and process with conventional technology. State-of-the-art technology is necessary to overcome these technological challenges.

The non-technological challenges must also be addressed to achieve the aim of ReBBloCS, which are organizational, legal and social in nature and are described in Activity 7 of the project.

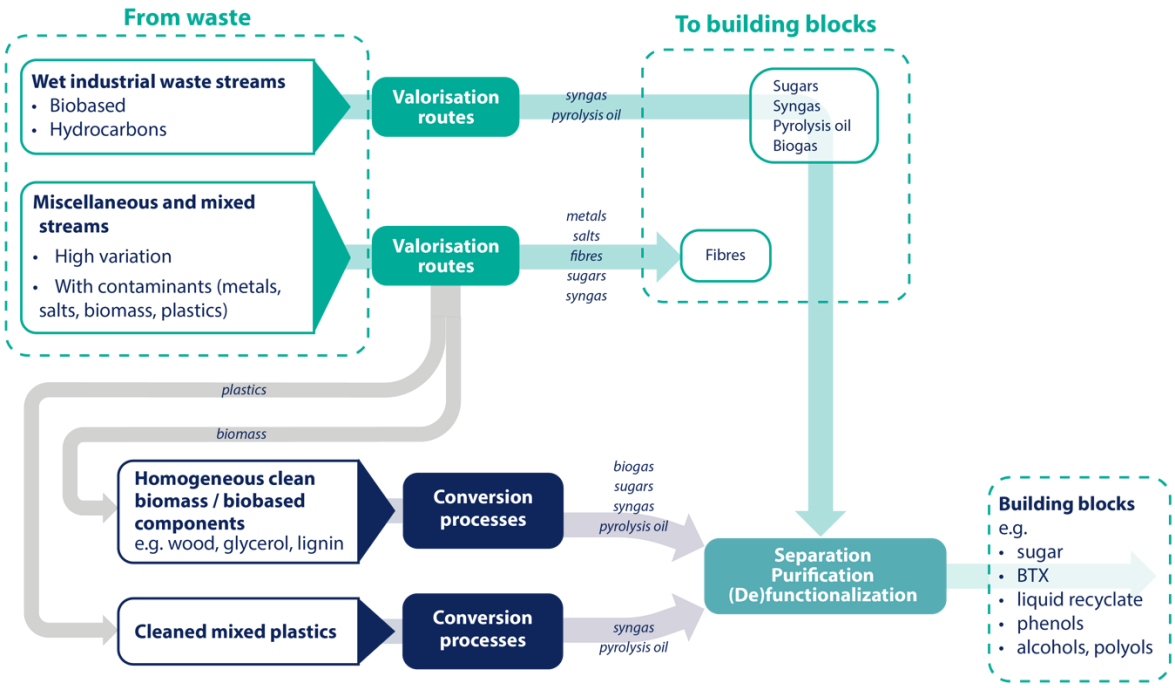

Figure 1: Overview of ReBBloCS project. ReBBloCS focusses on valorising mixed and wet waste streams using conversion, separation, and purification technologies.

3. Schematic overview of project activities

To tackle both the technological and non-technological challenges ReBBloCS has defined 9 activities on which the relevant partners of the consortium will work together:

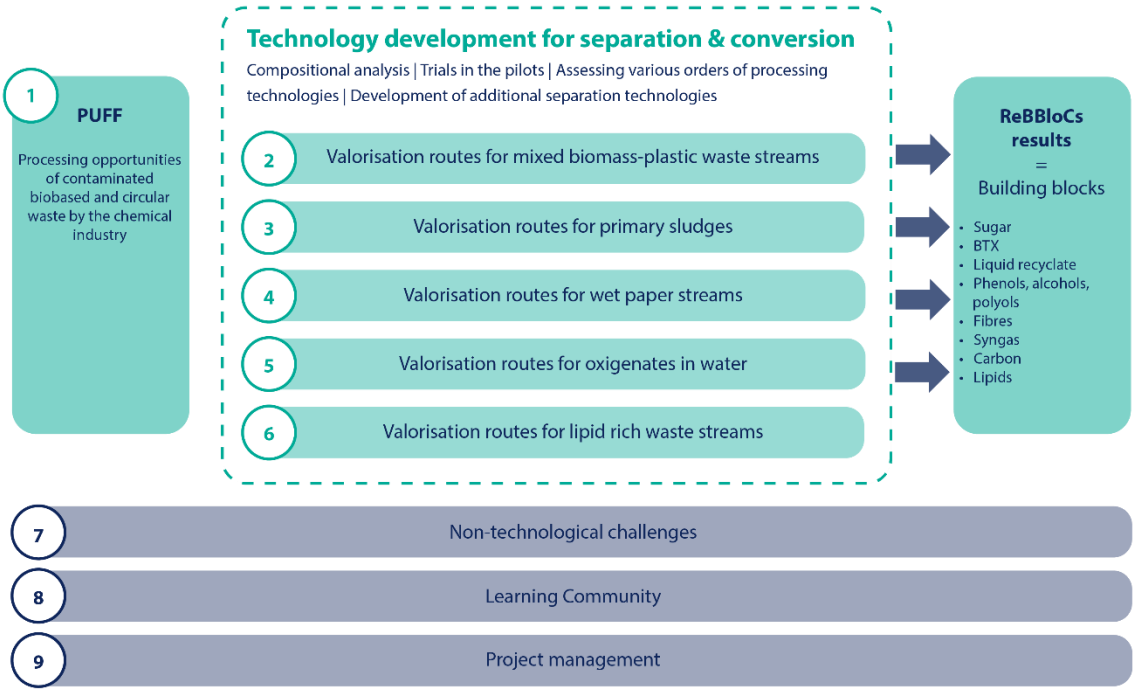

Figure 2: Overview of the activities in ReBBloCS.