

A Roadmap towards TRL 9 in chemical Recycling – the Knapsack 10 kta plan(t)

Speaker: Christian Haupts, CEO – Carboliq GmbH

Chemical Recycling is on his way to TRL 9 – several companies are willing to install and erect commercial plants in Europe i.e. some competitors aim for large annual output target of 120,000 tonnes. In this context, chemical industry work amongst partners like Plastic Energy, Quantafuel, and Pryme to aim for the 10,000-20,000 tonnes bracket.

We as Carboliq run a TRL8 approved facility in Ennigerloh for almost 2 years with 4.600 hours dedicated to CLR production (time-on-stream) and 6.000 hours operational plant time in 2022. Südpack, a reliable partner, provides us with a steady supply of non-recyclable multilayer films. Further, our technology has been rigorously tested and proven to adapt to additional feedstocks from different Feedstock suppliers to improve our SRF processing capability.

We are ready and feel confident to do the next steps in the technical development and the commercial validation. A 10kta Output plant in Knapsack.

The presentation gives an outlook, where we come from, a short summery what have been done so far and in the main part, how we decided to go to and the reasons for the Knapsack site and what is the status of the project regarding, permitting, feedstock supply, funding, engineering, and offtake.

We also want to show why the 10 kta- size is chosen and necessary, and why the plant will become the demonstrator of chemical recycling in German – it will become a plant where the successful application of technology can be viable, tangible, and visitable – in Knapsack.

We would like to conclude the presentation with a view and discussion on the underlying business case. Where and what are the hurdles for a cost-effective production? i.e., electricity costs undeniably influence our operational economics. Recognizing this, our mitigation strategies are geared towards optimization, ensuring both sustainability and financial viability.