

Master Thesis Work:

Markets for & production of lignin-based polyurethanes (PU)

Background & objective

The company Enerlab in Canada has developed possible applications for lignin-based polyurethanes (PU) – ¹⁾ Spray Polyurethane Foam (SPF), ²⁾ Polyisocyanurate Insulation Board (PIR) and ³⁾ Structural Insulated Panel (SIP). This master thesis work focus the potential for this type of lignin-based PU:s for the Nordic market.

The objective is to clarify where the market is and who are the actors are today on the PU market in the Nordic countries and EU, the potential for the technology by Enerlab and if there are other actors in “green” PU:s. The demand on production od lignin-based PU:s should be clarified and the information summarized into a road map for commercialization.

Challenges

- A map of todays actors in production and users as well as specific products
- Specifications
- Alternative “green” PU:s
- Cost structure
- Drivers for change into “green” options and well as limitations
- Production demands – what is needed in terms of equipment and infrastructure etc.
- R&D challenges

Project Plan

The objective with this master student work is to clarify if it is possible to find a concept with good potential to form a business case in Värmland for the Nordic (or European) market. The work will focus use of available information which the master student/-s develop and refine. Limited experimental work can be justified in some cases.

Candidate

As a candidate for this Master Thesis work you should preferably like independent and creative work where you collect a lot of information by different contacts with the established actors in the field. A suitable background is industrial economy, chemistry, chemical technology and analytical chemistry. The candidate will need to have interest and skills in both technology, economy and business development. The work is planned for Q1 and Q2 2019.

Location

The LignoCity Initiative in Bäckhammar – cooperation with Karlstad University, Paper Province and RISE Bioeconomy.

Contact persons

The LignoCity Initiative:

- RISE Bioeconomy in Stockholm: Per Tomani RISE (per.tomani@ri.se)

Operative supervisors will be discussed and decided together with the master student.