**Pro2BE: Processes and Products for a circular Bio-Economy**

**Forest industry and bio-economy oriented research**

**Service Research Center (CTF)**

**Functional Surfaces and Sustainable Materials**

Prof. Lars Järnström and co-workers

**Multilayer Coating Concepts for Renewable Packaging**

Pilot coating at UniFast Plant, Saleby

**Drying and Dewatering**

Prof. Lars Nilsson and co-workers

**New Development for Pellet Technology**

Ass. Prof. Jonas Berghel and co-workers

**Water-Energy Nexus**

Ass. Prof. Karin Granström and co-workers

**We work within the paradigm of a circular forest based bioeconomy, using a system analysis perspective.**

**Vision**

*Pro2BE is devoted to fundamental and applied research for industrial development and societal transformation.*

*Pro2BE has direct and positive impact on sustainability on regional, national and international levels.*

*Pro2BE researchers take part in and inspire education.*

**THE BIOMASS FACTORY**

Pneumatic dryer for biofuels

1. Pellet plant at Kau
2. Storage and mixer
3. Screw conveyor and heater
4. Pelleting press
5. Hopper

**New Development for Pellet Technology**

Ass. Prof. Jonas Berghel and co-workers

"We have experience of the drying of biomass, paper, crops, and clothes, and we are currently in the process of extending and deepening the knowledge of drying-related research and development."
Pyrolysis
HTC
Enriched Bio‐char
Pellets (or powder)
Wood
Higher plant yield
Carbon storage capacity
Cat‐ion exchange capacity
Water holding capacity
Available nutrient
Microbial activity
Remedy soil acidification
Immobilizing heavy metals
Bio‐sludge
Fibre‐sludge
Wood Ash
Lignin
Pulp and Paper
AD
Nursery
Projects FoSBE, IMTRIS, NärSkog
Regional test beds: LignoCity, The Biomass Factory

Biosludge for bioplastic and biohydrogen gas

Possible production at a large mill
- 50 – 200 tonnes H2/year
- 800 - 2000 tonnes polymer/year