The centre plate design affects refiner performance

Christer Sandberg – Holmen Paper/MiUn
Karl Lönngren, Mikael Lundfors – Valmet
EcoSYS Project, Mid Sweden University

Subproject: Process intensification
Goal reach 1200 kWh/adt refining energy, News
DD refiners in Braviken

2008
3 RGP68DD (Valmet)
Single stage refining (first with 2\textsuperscript{nd} stage LC)
1000 adt/day
Replaced 7 58” SD refiners and one DIP line
R&D work

- 3 PhD students
- 11 scientific papers
- 6 Conference presentations
- 2 Demonstration projects

Chip pre-treatment → DD → LC

Sulphite
Research results

Tensile index (Nm/g)

SEC (kWh/adt)

13 adt/h
16 adt/h
10 adt/h
EcoSys
Holmen, SCA, Stora Enso, Valmet

Sub projects
1. Refining
2. Process intensification
3. Robust quality measurements
4. Fracture mechanics
Can we maintain the fibre structure?

Picture: Dinesh Fernando, SLU
First step

Improve chip feeding to enable high production rate
New centre plate design
I-side
K-side
Results new centre plate
Reduced power and gap variations
Results new centre plate

Reduced feed steam consumption
Standard centre plate

Tensile index (Nm/g)

Specific energy (kWh/adt)
Results new centre plate
Results new centre plate

Tensile index (Nm/g)

- Gap
- Prod
- New Centre

Specific energy (kWh/adt)
Why?
Continued work

Second trial with the new centre plate soon

Improved refiner stability

More feeding segment design
Thank you!