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Research area: Process aims

Pulp production // Recovered paper treatment

Key words:

Deinking, recovered paper quality control, deinking line structure

Title:

New and innovative processes for radical changes of the European pulp & paper industry – ECO-TARGET

SubProject SP 2: Recycled Fibre Supply WPs 2.1 “Recovered paper sorting and quality control by sensor development”, 5.2 “Simplified and New deinking line structure”

Background/Problem area

Several bottle necks need to be removed to increase the use of recycled fibres in Europe while still securing a good fibre quality. The quality of recycled fibres is already today often questionable since the sorting of recovered paper is mainly based on human experience. Development of tools for better control is required. Some papers containing additives (inks, adhesives) which are detrimental for the recycling process. Some new printing technologies also result in paper which is very hard to deink with recent methods. Partly because of what is just said and a general demand for higher quality of recycled fibres, deinking lines have become more and more complicated (high number of treatment stages).

Objectives/Research results

The overall objective of SP2 is to help to the development of process solutions enabling to increase the recycled fibres utilisation rate in Europe. This subproject is composed of work packages.

WP2.1 consists in the development of sensors and procedures (instrumented) for quality control of recovered papers (RP) replacing sense based human control in order to induce new behaviour regarding RP and to contribute to secure recycling sustainability.

The objective of WP2.2 is to propose a new concept for the deinking process which will greatly simplify it with its resulting advantages: less losses, less energy consumption and better recycled pulp quality. Instead of adding new process stage each time this work aims to propose a new deinking concept adapted to the wide range of raw material type grades and mixtures resulting of new recovered paper collection systems and adapted to the new DIP quality asked by the market.

Application/Economic benefits

The results of the project shall contribute to the key target areas of wood raw material reduction and waste reduction as well as to energy reductions. The measures will reduce production costs, effluents and will make an important contribution to improved paper quality and process stability. The project results will be used within the SP2 partners. Selected results will be disseminated to other Ecotarget members, throughout European paper mills and to allied branches. The project results will be summarized in project reports, published in the technical press and disseminated within the framework of the continuing education programmes of the participating institutions. The suppliers of chemical additives, control measurements/systems and separation techniques will offer their newly developed and improved products on the market. The institutes will disseminate the project results in articles in the technical press and in presentations at symposia, workshops and other events of their continuing education programmes primarily attended by representatives of the European paper and chemical industries.

Project period: 01.11.2004 – 31.10.2008

Remarks

The integrated research project ECOTARGET (NMP2-CT-2004-500345) is being funded by the European Commission covering six Subprojects. Subproject SP 2 “Recycled fibre supply” is coordinated by CTP (WP2.1-leader, WP2.2-leader), France in cooperation with leading European paper institutes: PTS, Germany; KCPK, The Netherlands; and eight industrial partners (suppliers and paper mills): ARTECH SYSTEM, France; Holmen, Sweden, Kadant Lamort, France, LDZ, Switzerland, LLA, Germany; Kolb, Switzerland; UPM, Austria/Finland/Germany; Viocartiki, Greece..