



**COST ACTION E48  
The Limits of Paper Recycling**

**Minutes of the  
1<sup>st</sup> Meeting of WG 2**

**Hotel De Zoete Inval  
Haarlemmerstraatweg 183  
2065 AE Haarlemmerliede, The Netherlands**

**Thursday, 30 June 2005, 17:00 – 18:30 hrs  
Friday, 1 July 2005, 09:00 – 12:00 hrs**

**Attendees**

The following members attended the 1<sup>st</sup> WG2 meeting

Stanka Nedeva, Bulgaria	Ivo Valchev, Bulgaria
Tom Lundin, Finland	Juha Saari, Finland
Francois Julien-Saint-Amand, France	Jörg Wagner, Germany
Dariusz Asendrych, Poland	Loud van Kessel, The Netherlands
Annita Westenbroek, The Netherlands	Carlos Negro, Spain

**1. Welcome**

François Julien Saint Amand, the coordinator of this working group opens the meeting and welcomes the participants.

François Julien Saint Amand points out that the main items in the agenda of this first meeting are to develop a precise idea concerning the content of the work programme for WG2 and to prepare the programme for the next meetings.

The discussion on these topics is based on suggestions for the work programmes of the WGs which had been established in a meeting between Angeles Blanco, Jan-Erik Levlin, Arie Hooimeijer and Harald Grossmann following the kick-off meeting on March 30 in Brussels. Corresponding documents were distributed earlier and during the meeting.

## 2. Results of the discussion concerning the content of the work programme of WG1

François Julien Saint Amand reminds the participants of the main objectives of WG2, which were the identification of the

### **Limits of paper recycling governed by pulp preparation technologies**

According to the MoU, this 2<sup>nd</sup> scientific area includes,

- the assessment of the state of the art and future potentials of recovered paper pulping techniques as well as those for cleaning and improving recycled pulps (this includes not only machinery but also the chemicals used for these process steps as well as process operation strategies (design of process chains including sensor technology and control systems),
- the identification of changes in the composition of recovered paper in terms of non-paper components, their accumulation and the microbial activities in extremely narrowed or even closed water circuits and the potential impacts of all these effects on both, processes and product quality,
- the recyclability of different raw materials,

and this 2<sup>nd</sup> Working Group should focus on,

- the assessment of existing and future recovered paper treatment technologies and their potential contribution to safeguard or even improve recycled pulp quality,
- the assessment of the selectivity of cleaning processes employed in the paper industry for the treatment of recycled pulps and the type and amount of rejects generated by these techniques,
- the development of techniques for the treatment of residues from recycled pulp stock preparation.

It was also recalled that WG2 should work in close cooperation with COST E26 “Effective Solutions to Reduce the Impact of Waste arising from Papermaking Process” as well as with COST E46 “Improvements in the Understanding and Use of De-Inking Technology”.

After intensive discussions the participants agree, that WG2 should accomplish its mission predominately by collecting information (based on nationally funded projects) and drawing conclusions in the following areas:

### **1. Assessment of existing and future recovered paper treatment technologies and their potential contribution to safeguard or even improve recycled pulp quality**

- ***Improving recyclability***
  - Inks, adhesives and glues: limited to guidelines for improved recyclability (development of products beyond our scope)
- ***Upgrading and optimizing the use of recycled pulps***
  - Regeneration of fibre potential: flexibility, bonding, swelling
    - Alternative mechanical treatment
    - Chemical treatments
    - Enzyme treatments
- ***Optimisation of recovered paper treatment line***
  - Cost efficiency, energy saving, gentle treatments to protect fibres
  - Relationship between recovered papers, treatment line and end product
    - Which recycling line for which end product ?
    - Which recovered paper for which end product? (with WG1)

- Sensor technologies and control systems to improve the performance of the recycling plants
- Simulation. *Note: input from COST E36*

## 2. Assessment of the selectivity of cleaning processes used for the treatment of recycled pulps and the type and amount of rejects generated by these techniques

### □ *Undesirable/desirable materials as a function of product quality*

- Selectivity, efficiency and solid losses of the separation process including macro and micro-particle separation, i.e.:
  - Separation of macro-contaminant and macro-stickies from the fibres
  - Separation of inks and micro-stickies from fillers and fines (good/bad)*Note: including fluid mechanics activities, e.g. CFD simulation, rheology of pulps and stickies, for optimisation studies*
- Specialized treatment plants for the recovery of specific products

### □ *Reducing effects of undesirable materials (organic, inorganic, microbial) on environment, process and product quality*

- Wastes: rejects/sludge, organic versus mineral fillers.  
*Note: cooperation with / input from E26*
- Disturbing components in process waters and effect on process and product quality, e.g.:
  - Bleachability of “fine elements”
  - DCS interactions with wet-end chemistry
  - Microbiological activity (odor, spots, food contact etc.)*Note: cooperation with / input from E46*

## 3. Development of techniques for the treatment of residues from recycled pulp stock preparation

### □ *Towards energy neutral recycling*

- How will look like a future mill?

### □ *Development of techniques for the treatment of residues from recycled pulp stock preparation*

*Note: cooperation with / input from E26 (start where COST E26 ends)*

## 4 Results concerning the programme of the next WG2 meeting

It is agreed that the next meeting should focus on the recycling process (2<sup>nd</sup> programme area) and that progress in the COST Actions, which were identified as closely related to programme to be covered by this Working Group, i.e. E26, E36 and E46, should be reported.

Loud van Kessel volunteers to report on COST Action E26

Carlos Negro volunteers to report on COST Action E36

Juha Saari volunteers to report on COST Action E46

François Julien Saint Amand indicates that the European project “ScreenClean”, about the optimisation of the removal of PSA stickies in deinking lines had just been completed.

The participants agree on a first draft agenda of the next WG2 meeting, which should include the following presentations:

- Report on COST Action E26 (by Loud van Kessel)
- Report on COST Action E46 (by Juha Saari)
- Overview of ScreenClean project results (by François Julien Saint Amand)
- A presentation about packaging paper recycling process studies in the Netherlands

Such an agenda would leave time for one (maximum two) additional presentation(s) in the field of the second area of the WG2 programme.

It is suggested that the reporting about COST Action E36 (by Carlos Negro) should be postponed to the third WG2 meeting.

**François Julien Saint Amand will set up the programme for the next WG2 meeting and would therefore need presentation proposals (just working titles / confirmation about reporting on COST Action E26 and E46) by mid October at the latest.**

## **5 AOB**

As a large majority of the WG2 participants were also interested in the programme areas covered by WG1 and/or WG3, it was felt that organising meetings of the WGs (and the MC) over for example two days in such a way to offer the possibility to attend presentations given in other WGs, would be most beneficial.

## **6 Date and venue of next meeting**

The next WG1 meeting will be held in conjunction with the MC meeting scheduled for late November 2005 in Brussels. Details will be given in due time.

## **7 Closure**

François Julien Saint Amand closes the meeting and thanks all the participants for their cooperation.

## **List of activities**

Preparation of proposal about presentations at the next meeting

All