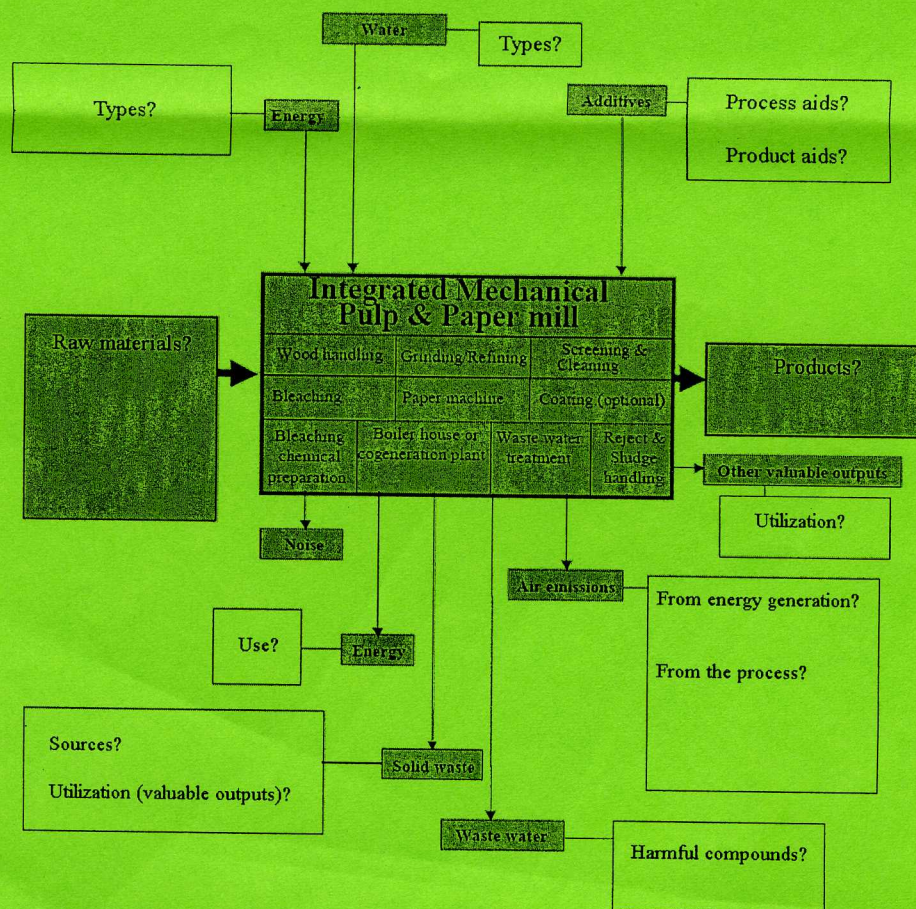


Puu-127.4040 / Puu-127.9000 Environmental Technology in the Pulp and Paper Industry (4 cr/3 cr) Olli Dahl
Exam 28.10.2009
Compulsory questions (1 - 2)

1. Briefly explain the following words, abbreviations or principles. 5p. (a 1p)

- Green liquor dregs
- BAT
- TRS
- VOC
- EDTA and DTPA

2. List the various inputs and outputs and their origin in the boxes shown in the figure. 5p.



Answer three (3) questions from questions 3 – 6.

3. Discuss the use of BREF documents in the assessment and environmental permitting process. 5p.
4. Describe where the following substances are used in forest industry processes: $MgSO_4$, EDTA, ClO_2 , PCC and aluminium sulphate – why they are used and where they end up (final products, wastewaters, solid wastes or in emissions to air?). 5p.
5. Describe the fibre cleaning process in recycled pulp production. 5p.
6. White water system on a paper machine. Discuss the advantages and disadvantages of increasing the closure level. 5p.