

# ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

A tool for understanding environmental decisions related to the pulp and paper industry



## EFFECTS OF RECYCLED FIBER USE ON DISCHARGES TO WATER

### Newsprint Sector

A large and growing number of grades of printing and writing paper are made primarily from mechanical pulp. These are explained in Paulapuro (2000). Almost all of the recovered old newspapers used for papermaking, however, are used to produce newsprint. Therefore, this section focuses on the co-benefits and trade-offs when recycled newsprint is used in place of virgin mechanical pulp. The information below may apply to other grades of paper made from mechanical pulp, but this should not be assumed true unless confirmed by more grade-specific information.

Many mills now have facilities for producing both virgin mechanical pulp and recycled pulp from old newspaper (ONP). Therefore, in many situations, the effects of increasing recycled content will require examination of how the increase affects specific mills.

In any event, as the published information in the table below illustrates, there is significant overlap in the range of effluent loads of BOD, TSS and COD (chemical oxygen demand) for virgin mechanical newsprint and recycled newsprint mills. Therefore, in general, one would not expect that increasing recycled content of newsprint would have a significant effect on these parameters. This is confirmed by statistical analysis of NCASI site-specific data on BOD and TSS in final effluents.

Table R15.

| Mill Description   | Effluent BOD (kg/tonne) | Effluent COD (kg/tonne) | Effluent TSS (kg/tonne) | Reference             |
|--|-------------------------|-------------------------|-------------------------|-----------------------|
| Mechanical pulp mills using Best Available Techniques and using at least 50% mechanical pulp | 0.2 to 0.5              | 2.0 to 5.0              | 0.2 to 0.5              | EC BREF 2001          |
| Deinking mill using Best Available Techniques  | <0.05 to 0.2            | 2.0 to 4.0              | 0.1 to 0.3              |                       |
| Typical virgin newsprint mill  | 1.5                     | 21.65                   | 2.9                     | Paper Task Force 2002 |
| Typical recycled newsprint mill  | 3.05                    | 13.8                    | 3.45                    |                       |

### References

European Commission BAT Reference (BREF). 2001. *Integrated Pollution Prevention and Control (IPPC) reference document on best available techniques in the pulp and paper industry*. Seville, Spain: European Commission Joint Research Centre. <http://eippcb.jrc.es/reference/pp.html>

Paper Task Force. 2002. *Paper Task Force recommendations for purchasing and using environmentally preferable paper*. <http://epa.gov/epawaste/consERVE/tools/warm/pdfs/EnvironmentalDefenseFund.pdf>

Paulapuro, H. (ed.). 2000. *Paper and paperboard grades*. Book 18 in Papermaking Science and Technology Series, ed. J. Gullichsen and H. Paulapuro. Atlanta, GA: TAPPI Press and Finnish Paper Engineers' Association.