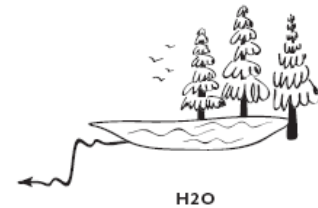


# ENVIRONMENTAL FOOTPRINT COMPARISON TOOL

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



## EFFECTS OF RECYCLED FIBER USE ON WATER USE

### Paperboard Sector

There are many types of paperboard, but the main division is between containerboard and recycled paperboard. Both containerboard and recycled paperboard contain large amounts of recycled fiber.

Containerboard is used in corrugated boxes. The outside layers of the corrugated material are made of a fiber sheet called linerboard or test liner and the middle fluted layer is called corrugating medium, medium, or fluting. Therefore, containerboard is often divided into two groups, liner and medium. Within the containerboard sector, product specifications vary and these specifications may affect the use of recovered fiber as well as the extent of mill water use and effluent volumes.

Water use and effluent flows at containerboard mills with virgin pulping on site are usually larger than at mills using only recovered fiber. At mills producing containerboard from a combination of on-site-produced virgin fiber and recovered fiber, a common situation in North America, production-normalized water use and effluent flow tend to fall between all-virgin and all-recycled mills. For more detailed information on containerboard mills, [click here](#).

The opportunities to increase the use of recovered fiber use in recycled paperboard manufacture are very grade-dependent. In some cases, the product niches filled by recycled paperboard can be filled only by mills producing board from 100% recovered fiber, so there are no recycled fiber-related environmental footprint decisions to consider. In some cases, however, recycled paperboard and solid bleached sulfate (paperboard made from virgin bleached kraft pulp) compete in the same product niche. In other cases, recycled paperboard may compete against unbleached kraft board grades. Recycled paperboard mills usually use and discharge less water than bleached and unbleached kraft mills. For more specific information on some of the recycled fiber-related environmental footprint decisions involving recycled paperboard mills, [click here](#).

There are additional, non-environmental considerations associated with increased recycling that customers may want to discuss with suppliers. To view a list of some of these, see the [general overview section](#).

Additional information on the fiber quality requirements for paperboard manufacturing can be found in Gottsching and Pakarinen 2000.

More information on the sources of fiber in containerboard and recycled paperboard mills in the U.S. is available in the AF&PA "Recovered Paper Statistical Highlights" series (AF&PA n.d.). Comparable information from other countries is usually available from the country's paper industry trade association.

### References

Gottsching, L. and H. Pakarinen (eds.). 2000. *Recycled fiber and deinking*. Book 7 in Papermaking Science and Technology Series, ed. J. Gullichsen and H. Paulapuro. Atlanta, GA: TAPPI Press and Finnish Paper Engineers' Association.

American Forest & Paper Association (AF&PA). n.d. <http://paperrecycles.org/statistics>