BEVERAGE CARTONS: A LOW CARBON PACKAGING CHOICE

Beverage cartons are in a strong position to help retailers and their supply chains reduce their carbon footprint. Of the numerous Life Cycle Assessments (LCAs) undertaken by the industry as well as by leading environmental research institutes, most show that the carton has the lowest carbon footprint in its core categories of milk and juice, compared to alternative packaging types.

A LOW CARBON PRODUCT THAT HELPS THE CLIMATE CHANGE FIGHT

Choosing paper-based products from responsibly managed forests, such as those in Finland and Sweden, can help to expand the earth's natural carbon stores – forests. Research from the University of Helsinki found that the need for ever-growing areas of European forests to be conserved for biodiversity reasons, together with the demand for end timber products, has led to such effective forest management that today's European forests are actually increasing in value as carbon sequesters.

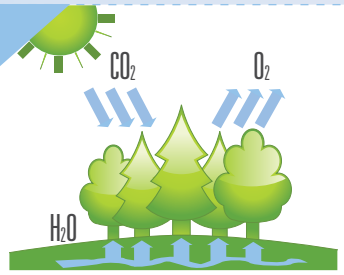
It is estimated that from 1990 to 2005 expanding forest biomass in the EU27 sequestered 360–495 million tonnes of CO_2 from the atmosphere each year – corresponding to 8-10 per cent of the EU's fossil fuel carbon dioxide emissions.[1]

So, although there has been a greater demand for wood-based products in recent years, thanks to improved forest management practices these forests produce a greater yield of wood per hectare and thus increasingly absorb CO_2 from the atmosphere. This carbon is then 'locked' within the tree and its future products. Recycling extends this further.

1. (Rautiainen, A., et al., Carbon gains and recovery from degradation of forest biomass in European Union during 1990–2005. Forest Ecol. Manage. (2009))

FIVE REASONS WHY...

1



GROWING FORESTS THAT ARE RESPONSIBLY MANAGED ARE EFFECTIVE CARBON STORES, ABSORBING CO_2 AND RELEASING OXYGEN THROUGH PHOTOSYNTHESIS

2

WOOD BY-PRODUCTS PROVIDE RENEWABLE ENERGY FOR THE PAPER MILL AND DISTRICT HEATING, REDUCING FOSSIL FUEL CONSUMPTION

3

THE BEVERAGE CARTON INDUSTRY IS COMMITTED TO REDUCING CO_2 EMISSIONS WITH PUBLISHED TARGETS, MANY SUPPORTED BY NGOs

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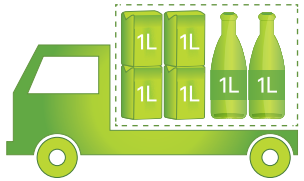


LIGHTWEIGHT AND SPACE EFFICIENT, THE CARTON REDUCES TRANSPORT EMISSIONS. A TRUCK LOADED WITH FILLED CARTONS TRANSPORTS ABOUT 95% PRODUCT AND ONLY 5% PACKAGING

5

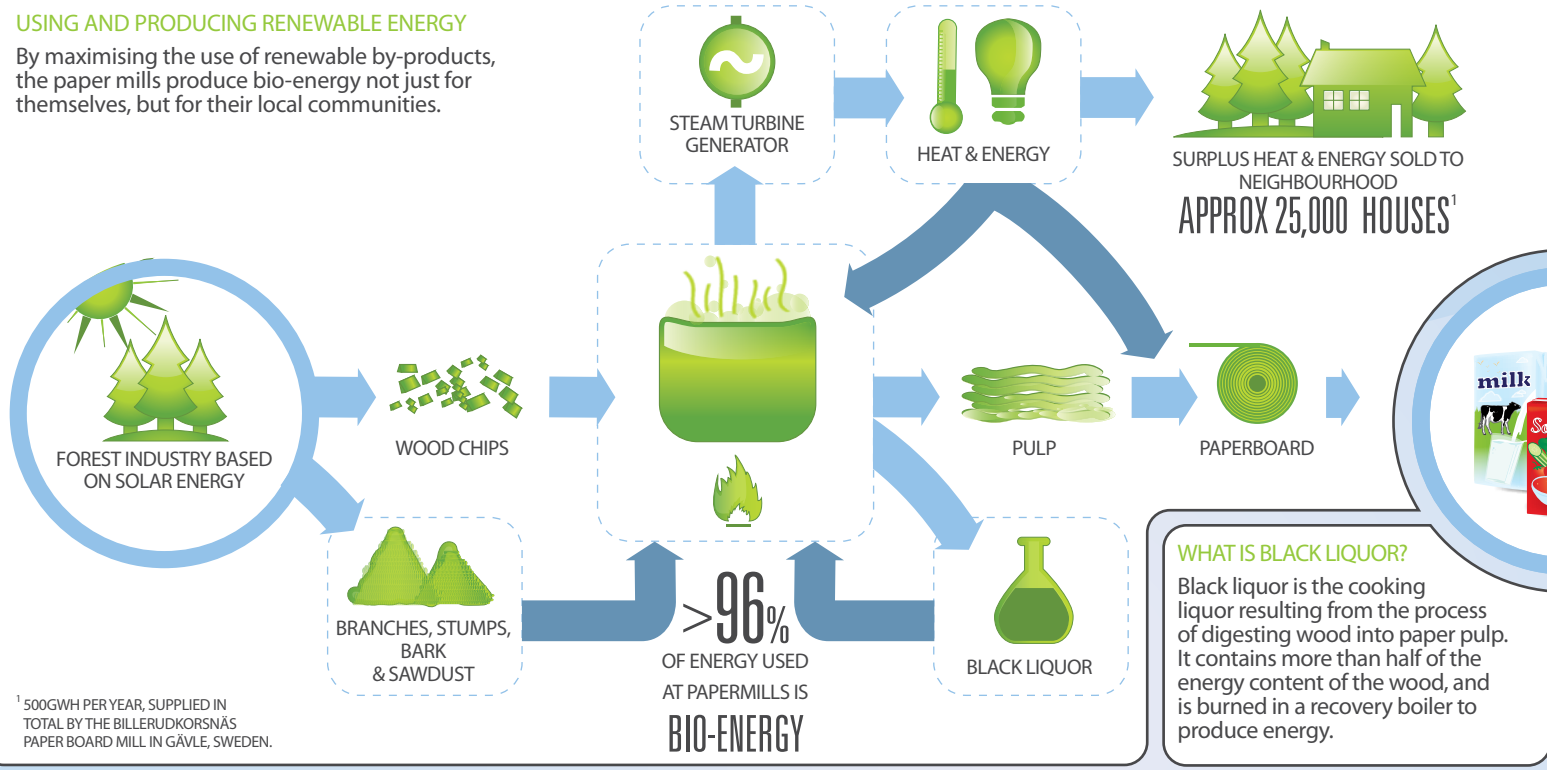
RECYCLING CARTONS EXTENDS THE LIFE OF RAW MATERIAL RESOURCES, KEEPING THE CARBON LOCKED-IN FOR LONGER

'ECOLOGICALLY ADVANTAGEOUS'

The low global warming potential of the beverage carton was one of the main reasons why a positive assessment was made by Germany's environmental agency, UBA, in 2000. It considered the beverage carton to be one of a limited number of 'ecologically advantageous' packages as specified in the German Packaging Ordinance.

USING AND PRODUCING RENEWABLE ENERGY

By maximising the use of renewable by-products, the paper mills produce bio-energy not just for themselves, but for their local communities.



[1] 500GWH PER YEAR, SUPPLIED IN TOTAL BY THE BILLERUDKORSNÄS PAPER BOARD MILL IN GÄVLE, SWEDEN.

WHAT IS BLACK LIQUOR?

Black liquor is the cooking liquor resulting from the process of digesting wood into paper pulp. It contains more than half of the energy content of the wood, and is burned in a recovery boiler to produce energy.

HOW ARE BEVERAGE CARTON MANUFACTURERS REDUCING THEIR FOOTPRINT FURTHER?

They have long-standing commitments to reducing emissions. Tetra Pak's climate programme focuses on three areas: favouring renewable materials and energy; reducing energy needs and emissions; and engaging with transportation suppliers. Its climate goal is to cap greenhouse gas emissions across the value chain at 2010 levels by 2020. The five pillars of Elopak's FutureProof 2020 Strategy also take account of the entire value chain, including a 25% reduction in energy use and a 15% reduction in transportation emissions by 2020. SIG Combibloc aims to save 40% CO_2 emissions by 2015 in all of its worldwide production sites (ref year 2009) and has developed a new aseptic carton structure, which reduces the carbon footprint by 28%.

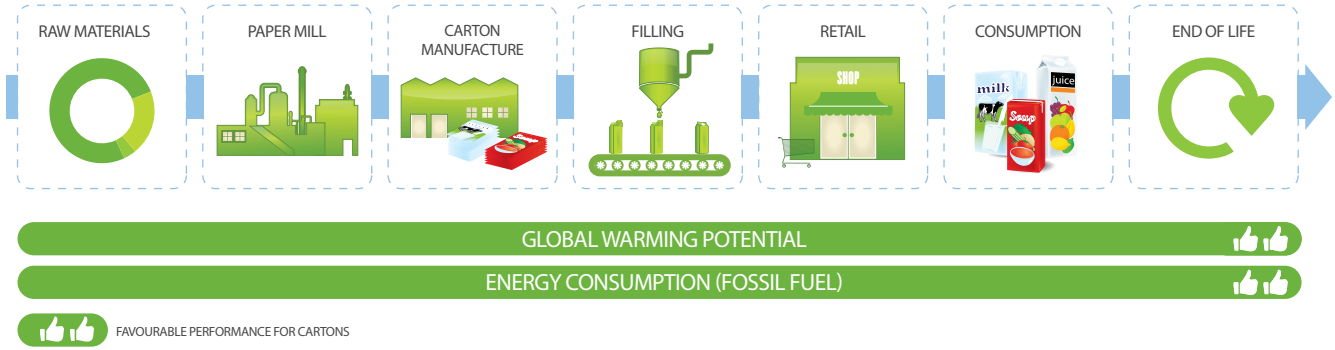
LCAS HIGHLIGHT LOW CLIMATE CHANGE IMPACT AND LOW FOSSIL FUEL ENERGY CONSUMPTION

A life-cycle assessment (LCA) enables the evaluation of various measurable environmental impacts (e.g. impact on climate change GHG emissions, effects on water, acid rain, energy consumption, water consumption etc.) across the entire life cycle.

The meta analysis 'LCA studies on beverage cartons and alternative packaging, IFEU 2009', assesses 22 individual LCAs which compare various forms of packaging material fulfilling the same function e.g. packing a litre of milk.

Several impact categories including climate change showed favourable outcomes for beverage cartons. Other impact categories showed inconclusive results because of either conflicting results or the sample size was too small. For others, LCAs were of limited value to draw meaningful conclusions.

Note that these findings are only valid within the framework (methodology chosen by the authors, limitations of individual LCAs) of this meta analysis.



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