In the past 3 years, the Corrugated Board Sector reduced its Carbon Footprint by 11.7 %

What is the Carbon Footprint of a box?

In relation to a corrugated box, a Carbon Footprint is defined as: **"The sum of fossil greenhouse gas emissions occurring at each stage of the box life cycle and within the specified system boundaries of the product".**
The Carbon Footprint of a corrugated box is a single number including all emissions that are released to create the corrugated box, including the CO2 emissions from the purchased materials, fuels and transports up to the point of arrival at the corrugated board plant (the so called cradle-to-gate emissions). The rest of the supply chain (what happens after the box plant) is not taken into account.

Results

The Corrugated Industry has been a pioneer in the LCA (Life Cycle Analysis) landscape and for many years it has been accumulating data. The figures clearly demonstrate the steady improvements in its environmental achievements.

Based on the 2009 European Database for Corrugated Board Life Cycle Studies, with additional supporting data, the following is the average calculated greenhouse gas balance associated with the production of corrugated packaging:

Fossil CO_2 equivalent per tonne of packaging: 784kg

We consider that the methodology used to calculate this value is in line with BSI PAS 2050. The stored CO_2 equivalent per tonne of corrugated packaging is 1696kg.

NB: This value is provided for additional information but it is not valid to subtract it from the fossil CO_2 equivalent.

In addition, thanks to improved efficiency in the production of corrugated, in 2009 the corrugated board manufacturers used only 1.09 tonnes of paper to produce one ton of corrugated packaging (compared to 1.13 tonnes in 2006).

The CO_2 Footprint is just one indicator of Life Cycle Impact Assessment (LCIA). Other indicators include depletion of the stratospheric ozone layer, acidification of land and water sources, eutrophication, formation of photochemical oxidants, and depletion of abiotic resources. However, in these areas the industry has also achieved reductions of between 10 and 20%.

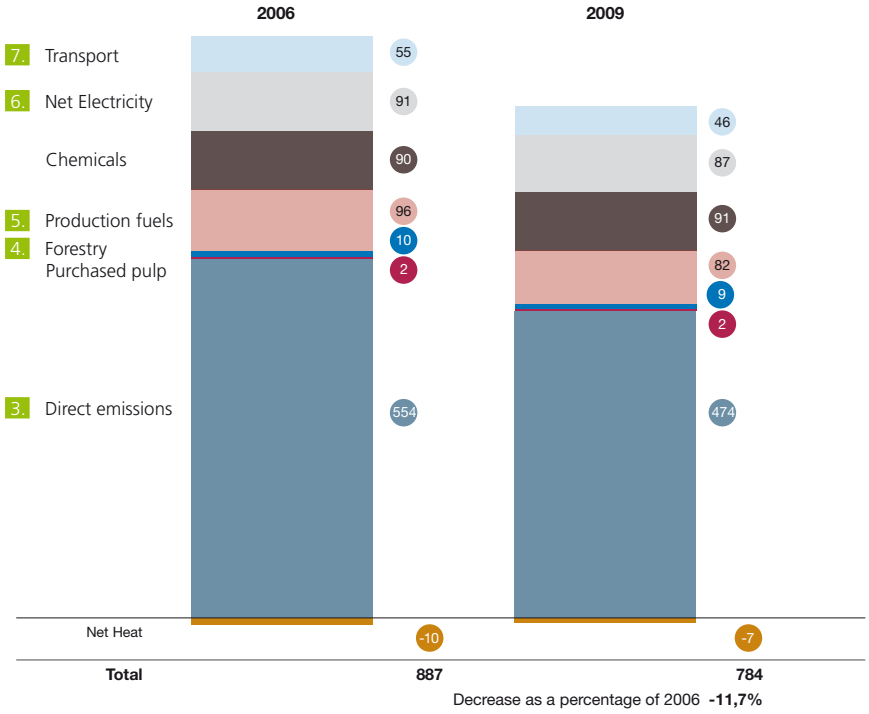
Calculation of the Carbon Footprint or methods for assessing the Carbon Footprint

All sectors of the paper and board industry at European level, including CITPA - the International Confederation of Paper and Board Converters in Europe - have worked with CEPI - the Confederation of European Paper Industries - to produce a guideline - the Framework for the Development of Carbon Footprints for Paper and Board Products.

10 toes of Carbon Footprint

1. Carbon sequestration in forests
2. Carbon stored in forest products
3. Greenhouse gas emissions from forest product manufacturing facilities
4. Greenhouse gas emissions associated with producing fibre
5. Greenhouse gas emissions associated with producing other raw materials/ fuels
6. Greenhouse gas emissions associated with purchased electricity, steam and heat and hot and cold water
7. Transport-related greenhouse gas emissions
8. Emissions associated with product use
9. Emissions associated with product end-of-life
10. Avoided emissions and offsets

The 5 toes defined in green print above have been analysed in depth, see chart below.



CO2 footprint 2006 - 2009
kg CO2 eq/ton box