

# Print and Paper The Facts

## Paper's carbon footprint isn't as high as you think

One definition of a 'carbon footprint' is "the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization, or community".<sup>1</sup> For paper products, this includes everything from harvesting trees, through the manufacturing process, to use and disposal or recycling. A look across this entire life cycle shows that paper's carbon footprint can be divided into three basic elements: greenhouse gas emissions, carbon sequestration and avoided emissions. Each of these elements is influenced by important characteristics that make paper's carbon footprint smaller than might be expected: it's made from a renewable resource that stores carbon, it's manufactured using mostly renewable energy, it's recyclable and recycled at a rate of 72%.

- The forest products industry is a leader in the production of renewable energy, with more than 58% of the on-site energy needed to produce paper products derived from carbon-neutral biomass. The specific CO<sub>2</sub> emissions decreased since 1990 by 44% per tonne of product. Our sector is the largest industrial producer of bioenergy, generating 20% of the biomass based energy in Europe.<sup>2</sup>
- There is a vital difference between energy production from fossil fuels and from biomass. Burning fossil fuels releases carbon dioxide that has been locked up for millions of years [introducing "new" carbon to the atmosphere]. By contrast, burning biomass simply returns to the atmosphere the carbon dioxide that was absorbed as the trees grew and there is no net release of carbon dioxide if the cycle of growth and harvest is sustained.<sup>3</sup>
- It is the new carbon from fossil fuels that is primarily responsible for the increases in atmospheric carbon dioxide that have occurred in the last 100 years.<sup>4</sup>
- The global print and paper industry accounts for only 1% of global carbon dioxide emissions.<sup>5</sup>
- Energy consumption of our mills has decreased by 5.2% in the last two years (2013 over 2011).<sup>6</sup>
- Today, 96.4% of electricity is produced on-site in paper mills using the energy-efficient combined heat and power method<sup>7</sup> [which recycles exhaust steam for use as manufacturing process heat or space heating]. Combined heat and power (CHP) systems are highly efficient (up to 80% efficiency compared to about 50% for traditional fossil-fuel power plants<sup>8</sup>) and, because they require less fuel to produce the same amount of energy, have lower emissions than separate heat and power generation.
- Carbon dioxide is removed from the atmosphere by trees and stored for a period before being returned to the atmosphere. The sequestered carbon is stored not only in trees. It is also stored in forest products [including paper] for periods ranging from days to centuries.<sup>9</sup>
- In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained [climate change] mitigation benefit.<sup>10</sup>

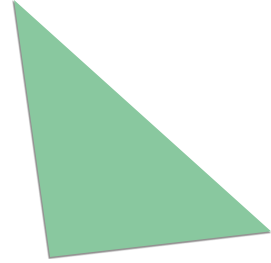


Print and Paper  
have a great  
environmental  
story to tell



[www.twosides.info](http://www.twosides.info)

# Print and Paper The Facts



steady state as carbon storage is matched by decomposition. At this point the forest becomes a vast carbon reservoir. When mature trees die the carbon stored is released back into the atmosphere. By harvesting trees before they die we can ensure that the carbon is locked up for longer in recyclable wood products. We can ensure that the system will continue to provide environmental benefits for future generations by replacing the felled trees with new ones.<sup>11</sup>

- The purpose of sustainable forest management is to ensure stable or increasing stock of wood as well as carbon sequestered in it. European forests sequester increasing amounts of carbon in tree biomass. Each year about 430 million tonnes of CO<sub>2</sub> (MCPFE, 2011), or around 10% of total greenhouse gas emissions, are removed from the atmosphere by photosynthesis and tree biomass growth in EU countries.<sup>12</sup>

1. [Oxford University Press, 2015](#)
2. CEPI, 2014
3. [Biomass Energy Centre, 2011](#)
4. [Intergovernmental Panel on Climate Change, Fourth Assessment Report, 2007](#)
5. [World Resources Institute \(WRI\), 2005](#)
6. CEPI, 2014
7. CEPI, 2014
8. [Association for Decentralised Energy, 2015](#)
9. [NCASI, 2007](#)
10. [Intergovernmental Panel on Climate Change, Fourth Assessment Report, 2007](#)
11. [Forestry Commission, 2014](#)
12. [European Commission, 2012](#)

Print and Paper  
have a great  
environmental  
story to tell



[www.twosides.info](http://www.twosides.info)