



# Carbon footprints

## HIT THE GROUND RUNNING

If a consensus approach fails to materialize, it won't be for lack of trying

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Over a career of 35 years, I have been asked a lot of odd questions, but one stands out. About 15 years ago, a fellow called and asked, in complete seriousness, if I knew of anyone making biodegradable luggage. (You can't make this stuff up.)

It has been a while since biodegradability was the issue du jour. Nowadays, the phone calls are about a different subject—carbon footprints. It makes you wonder. In 15 years, will we be chuckling about our quaint, turn-of-the-century infatuation with carbon footprinting?

To answer this question, we first need to understand what a carbon footprint is. It may surprise you to learn that there is no official definition of a carbon footprint, although it is generally understood to be the total quantity of greenhouse gas emissions associated with a product from the “cradle to the grave.” If this sounds suspiciously like a greenhouse gas life cycle study, it is, because in many respects, that is what a carbon footprint is. Indeed, some people argue that carbon footprint studies should be governed by the same standards that now govern life cycle assessment (LCA). Others, me included, remain hopeful that something less onerous will emerge.

If a consensus approach to carbon footprinting fails to materialize, it won't be for lack of trying. There are hundreds, perhaps even thousands, of carbon footprint calculators on the Internet; and there are at least dozens of thoughtfully crafted carbon footprint protocols that have been developed to address specific questions. A few activities, however, stand out, either because of the organizations sponsoring them or because of their focus on the forest products industry.

Perhaps the first attempt to develop a consensus framework for carbon footprinting of forest products was undertaken by the **Confederation of European Paper Industries (CEPI)**. CEPI's “Framework for the development of car-

bon footprints of paper and board products,” released in September 2007, put an important stake in the ground at a critical time in the European discussions of carbon footprinting. The CEPI framework highlights the important role of carbon sequestration and storage to the forest products value chain. It also emphasizes the value of cradle-to-gate footprints, which are footprints with carbon accounting boundaries that stop at the shipping dock of the company doing the footprint. Such footprints are more accurate than those that follow the product through end of life, and are especially useful in transferring carbon information in business-to-business communications.

While CEPI was finalizing its framework document, the **British Standards Institute** was developing Publicly Available Specification (PAS) 2050, which calls itself a “specification for the assessment of the life cycle greenhouse gas emissions of goods and services.” While PAS 2050 incorporates much of what makes life cycle assessment difficult and costly, there are several features of the specification that are important to the industry. Perhaps most significant, it includes carbon stored in forest products, although the ability to include this in a carbon footprint appears to be limited to products made from purpose-grown or recycled fiber. While it addresses carbon in products, PAS 2050 explicitly excludes carbon benefits associated with forest management. Like the CEPI framework, PAS 2050 allows both cradle-to-gate and cradle-to-grave footprints. PAS 2050 includes a number of provisions that remain ambiguous and will undoubtedly be refined over time, but even in its current form, PAS 2050 is an important example of one road down which carbon footprinting may travel.

Perhaps belatedly, some of the international heavy hitters are now weighing in. For many years the **Greenhouse Gas Protocol**, a joint project of the World Resources Institute (WRI)

and the World Business Council for Sustainable Development (WBCSD), has been recognized as the preeminent source of protocols and tools for corporate-level greenhouse gas accounting, especially for multi-national corporations. Earlier this year, the WRI/WBCSD GHG Protocol launched a “Product and Supply Chain Initiative.” At present, the initiative is planning on developing two separate footprint standards: one addressing product-level accounting and the other addressing entity-level (e.g. corporate-level) accounting. The schedule calls for the standards to be completed in 2010.

Given the links to life cycle assessment, it is not surprising that the **International Organization for Standardization (ISO)** has launched a standards setting process, expected to be complete in 2011. At present, it appears that ISO will be developing two standards: one on quantification and the other on communication. One can expect that these standards will rely heavily on existing ISO standards in the areas of life cycle assessment, greenhouse gas accounting and environmental labeling and declarations.

### CLOSER TO HOME

The lack of consensus standards for carbon footprinting has not stopped efforts to understand the greenhouse gas and carbon profile of the forest products value chain. **The National Council for Air and Stream Improvement, Inc. (NCASI)** has published studies of the global, Canadian and U.S. forest products sectors. The World Bank’s International Finance Corp. is working with NCASI to develop tools for developing screening-level carbon footprints of forest products value chains. A wide range of organizations in North America, Europe and likely elsewhere are applying accepted life cycle methods, the CEPI footprint framework and other information to develop carbon footprints and calculation tools tailored to meet the needs of the forest products industry. Over the coming months, you can expect to hear more about these various efforts.

### UNIQUE CHALLENGES


Regardless of how the methodology issues are resolved, there are several important things to always keep in mind. First, carbon footprints of forest products are unique in that they include not only emissions but also carbon sequestration and storage. Getting this recognized in carbon

footprint protocols, however, will be an ongoing challenge.

Second, carbon footprints of forest products, especially paper and paperboard products, will usually be most sensitive to (a) how carbon sequestration and storage is handled, (b) energy-related emissions associated with the manufacturing of primary products (e.g. pulp and paper), and (c) what happens to products at the end of life and how this is modeled.

Third, there are a number of important greenhouse gas attributes of forest products that may not be captured by carbon footprint protocols. Especially notable are various avoided emissions. These result from activities taking place in the forest products value chain that have the effect of reducing emissions elsewhere or avoiding scenarios that emit greenhouse gases. Examples of these activities include the recovery of discarded products that would generate large quantities of methane if landfilled and the export of biomass-based electricity to displace coal-based power on the grid. The industry’s stakeholders will need to be reminded that these avoided emissions and others are important, even if they are not credited by a particular carbon footprint protocol.

And finally, it will be important to remember that a carbon footprint score is not equivalent to the kind of information you find on a nutrition label. This is because a carbon footprint score is not a measured value but the output of a model. Like all modeled results, a carbon footprint score is subject to uncertainty and is affected by decisions made in the modeling. This means that regardless of the protocol, you will always need to be very cautious about simple comparisons of carbon footprint scores.

Does this mean that carbon footprinting will turn out to be another environmental fad? This seems unlikely as long as the public remains convinced that climate change is a crisis and that greenhouse gas emissions are to blame. Don’t be surprised if the interest in carbon footprints has legs. 

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Materials cited in this article can be obtained at the following web sites:

NCASI: [www.ncasi.org](http://www.ncasi.org)  
CEPI: [www.cepi.org](http://www.cepi.org)  
British Standards Association:  
[www.bsi-global.com](http://www.bsi-global.com)