HAPPY HOLIDAYS From Everyone at Carbon Credit Environmental Services (CCES)

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CCES is again offsetting the carbon emissions from the 2010 North American International Auto Show Charity Preview January 15, 2010 4:30 p.m. to Midnight at the Westin Book Cadillac

CCES will be presenting at the The Ohio Safety Congress in Columbus March 30 - April 1, 2010

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Is a Building Life-Cycle Assessment for You?

Currently people are familiar with the supermarket food-label standard nutrition form that tells you the amount of nutrients, salt, and fat contained in each serving.

Building materials will soon have a label, listing each product's contribution to global warming, ozone depletion, acid rain, habitat loss, and a handful of other environmental indicators.

Eventually, whole buildings will be measured based on their performance against a similar set of indicators. When that day comes, the label or rating system will be the result of an environmental life-cycle assessment (LCA).

While standardized labels on building products are not yet a reality (manufacturers are being asked to supply data to the local markets, Green Building Council, Walmart are just two examples of buyers wanting to know the environmental impact of items sold.), the science that will make it possible is rapidly becoming more sophisticated and more widely used.

"I've been getting new signals just in the past few months that the field is really taking off in the U.S.," reports LCA expert Mike Dolkowski of Carbon Credit Environmental Services, Detroit, Michigan. While performing full LCA studies is still a job best left to the experts, building professionals are increasingly likely to encounter LCA-based data or use software

tools that compile the results of studies done by others. To be effective in this setting, it is important to have a good understanding of the context in which those data and tools are created.

In principle, LCA is documenting the inputs and outputs of products pertaining to environmental impacts. If we are to understand the environmental impacts associated with any product, we must analyze the entire life of that product and consider the environmental burdens of each step along the way. Thus, product LCAs typically consider the extraction or harvesting of the raw materials, the refining and manufacturing processes that turn those raw materials into useful products, transportation of those products, their use, and their eventual disposal or reuse. This scope of analysis is often called "cradle-to-grave" or, including the reuse potential, "cradle-to-cradle" LCA.

Once we get into the details of this analysis, however, it gets complicated very quickly-and the closer we look, the more complicated it gets. To quantify energy and resource flows at each step in the life of a product and understand the impact of those flows.

LCA is often confused with the traditional engineering practice of life-cycle costing (LCC), but the two are very different. Where LCA is about quantifying and analyzing environmental burdens and impacts, LCC is strictly a financial tool for calculating the total cost of ownership over the useful life of an asset. The two tools are related in that they both take into account how long a particular item will serve its intended purpose and what maintenance it will need during that time. As a result, both tools give credit to it that are long-lived and durable, but LCA involves environmental accounting, while LCC only considers economic value.

Building professionals are unlikely to be in a position to carry out their own LCA studies, but those who are interested in the environmental impacts of their projects are increasingly likely to seek out, or encounter, LCA-based information. It is better to higher a professional company such as CCES .

To utilize this information intelligently, it is important to know something about how such studies are carried out. Most LCA studies today adhere to the principles laid out in a series of International Organization for Standardization (ISO) documents known as the "14040 Series" within the broader ISO 14000 category on environmental management. These documents describe four general steps to be performed in any LCA:

· Goal and scope definition, to clarify the questions to be answered and determine how much precision, detail, and reliability are needed to answer those questions-if an LCA is to be used for comparing competing products or materials, an appropriate functional unit that defines a measure of equivalent service from each of the candidate products must be defined;

· Inventory analysis, in which all the energy, water, and materials flowing into and out of every process in the subject's life-cycle-including pollutants-are quantified and categorized;

· Impact analysis, in which the inventory of inputs and outputs is related to actual (or assumed) impacts based on a series of environmental indicators, such as global warming potential, human toxicity, and resource depletion; and

· Interpretation and conclusions.

More recently, LCA has been used for many

other purposes, including some highly publicized studies comparing plastic and paper shopping bags, and disposable to reusable diapers. In general, most LCA studies are designed to support one or more of the following goals:

· documenting environmental performance for communication and marketing purposes;
· developing policy and regulations;
· assessing potential liability;
· evaluating environmental performance to document improvement for environmental management systems;
· green labeling; and
· purchasing/procurement decisions.

LCAs for building materials are different from those for disposable items like packaging, for two reasons: First, they tend to have a relatively long service life or, "use phase." As a result, any environmental impacts relating to the use of these materials, such as energy use, tend to dominate the overall life-cycle profile of the product. Second, their service life is highly variable, as even durable products may be replaced quickly for aesthetic or economic reasons. "Estimating the useful service life of a product or a building is very problematic for LCA," that is why you need an expert. This factor puts a high level of uncertainty on the results of any LCA study conducted on a building material. It is clear from LCA, however, that the service life of a product is very significant in terms of that product's environmental profile. "One thing LCA tells us is that a greener building should have a long life or be made from reusable materials,".

If you or your company would like to learn how you can create a "GREENER" building, contact Carbon Credit Environmental Services at 313-879-1158 or visit our website

Carbon Credit Environmental Services

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