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**FBA President Tells Packaging Professionals:
"Begin With The End In Mind"
When Planning Life-Cycle Analysis**

ELK GROVE VILLAGE, IL (June 2, 2008) -- Dwight Schmidt, President of the Fibre Box Association (FBA), recently addressed over 200 packaging professionals at the IoPP's Packaging Summit in Rosemont, IL, where he presented an industry perspective on conducting a Life Cycle Analysis, or "LCA." Dwight's presentation, entitled "Life Cycle Analysis: Real-World Execution," focused on general guidelines to consider when planning an LCA for a company, product or industry.

FBA jointly-sponsors the Corrugated Packaging Alliance (CPA), along with the American Forest & Paper Association (AF&PA) and the Association of Independent Corrugated Converters (AICC). Dwight also serves as Executive Director for CPA, which is in the midst of conducting a Life Cycle Analysis for corrugated.

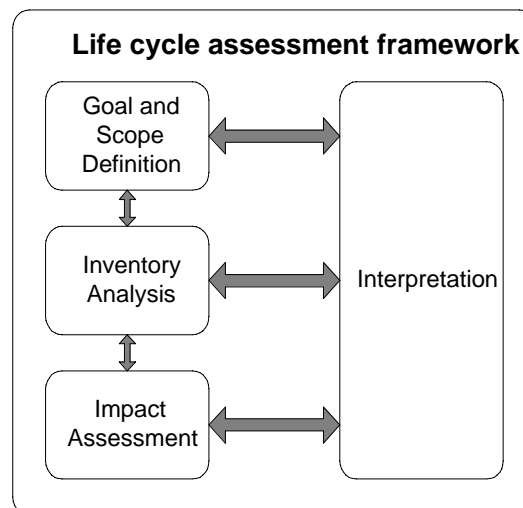
Dwight began his remarks by advising, "If you don't know, or don't want to follow the rules... don't start" an LCA, because it can be an expensive, time-consuming process whose value depends entirely on the credibility of the information it yields. That's why "setting appropriate goal and scope, system boundaries and functional units to be measured is the most important step in LCA planning," he explained.

Life Cycle Assessment, first developed in the late 1960s, focused initially on waste and energy. In 1996-2000, LCA guidelines were standardized by ISO in its 14040 series, and have been used by thousands of companies across a range of sectors to guide product and process improvements. Today, LCAs are increasingly being used to inform public policy, assist in research and development, aid in decisions surrounding waste management, food vs. fuel, bio-fuels, renewable energy, and product policy such as WEEE/RoHS & LEED. Numerous commercial software and data bases are already available, so there's no need to "start from scratch" in developing methodologies or gathering data.

Overview of an LCA Study

Real-world execution of a comprehensive LCA Study includes:

- Goal & Scope Definition: Determining scope and system boundaries
- Life Cycle Inventory: Data collection, modeling & analysis
- Impact Assessment: Analysis of inputs and outputs using indicators
- Interpretation: Sensitivity analysis, Monte Carlo analysis, dominance analysis, etc.



Source: ISO 14040

Before You Start

When planning an LCA, Dwight advised, "Think the process all the way through, and commit to key principles to assure the study's value," which include:

- being open, objective, and transparent. This means openly defining a study's parameters, scope and boundaries, and assumed values. Without transparency, results are meaningless in making comparisons or claims, and can be misused. An open and transparent process assures accountability for reporting of results;
- reaching consensus surrounding what you want to do;
- conducting peer review and publishing results. ISO guidelines call for such measures to assure objectivity, relevance and credibility.

Goal & Scope: The *most important* step in LCA

Carefully defining the goal and scope of an LCA is crucial to gaining meaningful information and to controlling cost. The corrugated industry established the scope of its study by considering:

- the LCA can be focused on internal and/or external uses, eco-design, to support marketing, comparison of products, or to support policy;
- stakeholders, both internal and external;
- LCA boundaries, including process scope, functional unit, reference flow, time frame, geographical boundary, data requirements, selection of impact categories, and allocation decisions.

Goals of the U.S. Corrugated LCA Study

Established goals for the Corrugated Packaging Alliance LCA study include:

1. Construct a core LCI data set for corrugated packaging
2. Respond to marketplace requests (e.g. Wal-Mart, etc.)
3. Identify relevant impact indicators and their key mechanisms for this industrial sector
4. Conform to ISO 14040 series, necessary to support comparisons
5. Maintain confidentiality of data sources
6. Allow member companies to maintain their own disaggregated data to allow for private comparisons, benchmarking to industry average data
7. Build knowledge within industry members on how to use LCA information

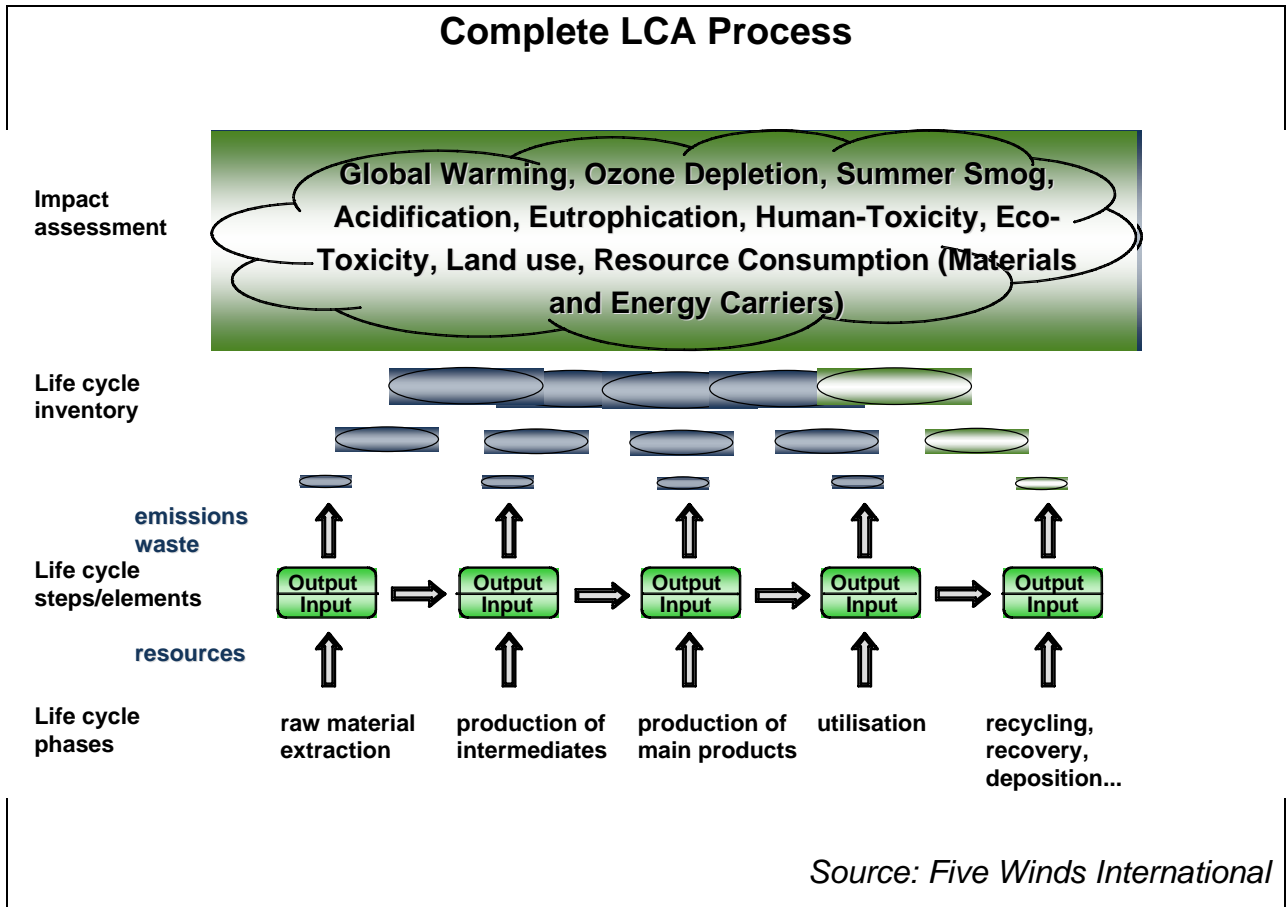
8. Collect data in formats compatible to support potential inclusion in databases (e.g. U.S. LCI data set, commercial database packages), and to support other uses, communication strategies, etc.
9. Establish a context that enables brainstorming of applicable scenarios in the future
10. Modular structure to allow for streamlining of initial analysis and future expansion of analysis
11. Establish system boundaries and other rule sets necessary for comparable studies that can become industry standard
12. Approach the international community for comment.

In scoping this study, the CPA determined that its Life Cycle Analysis would be directed to internal audiences (member companies) as well as to potential external stakeholders including retailers, CPGs, national data bases (such as MERGE and the U.S. LCI data base), NGOs (such as the Sustainable Packaging Coalition), EPA, the international corrugated community, academics, LCA practitioners, software providers and packaging professionals who are required to understand and use the information in decision-making. Many of these audiences require specific formats to meet their needs for scorecards, data templates, ISO standards, U.S. LCI data base, etc. The corrugated industry is also requiring a final report that is explained in "plain English" for maximum communication value. All the required formats were considered in the initial study design.

Why Do an Impact Assessment?

A life-cycle inventory (LCI) quantifies the inputs (raw materials, energy, etc.) and outputs (emissions, waste, toxicity, etc.) generated by a process or industry. This information is vital, but can be misleading without a full impact assessment. For example, 1,600 kg of CO₂ shown in a sample inventory seems highly significant compared to just 2.5 kg of CFC 11; but an impact assessment shows the smaller amount of CFC would have a far greater negative effect on the environment. Without analyzing the actual environmental impact, one might wrongly conclude that the CO₂ was a more important reduction goal. "Inventories provide important numbers," said

Dwight, "but impact assessment tells you what matters most, and becomes a meaningful baseline for improvement."



LCA Practitioner and Expert Review Panel

Dwight also discussed the process used by CPA to identify the best practitioner for conducting the corrugated LCA, and engaging reviewers from key stakeholder groups. He stressed the importance of a review panel to ensure the study's goal and scope, system boundaries, functional units, etc. all meet the requirements of the ISO 14040 LCA framework as well as the informational needs of external stakeholders, helping optimize value.

Never-Ending Journey?

When it's done, Dwight said, an LCA may prove to be the start of a never-ending journey. Properly used, it is an investment in baseline understanding that helps an

industry or an individual company measure changes. It also serves as a comparison tool for industry improvement and as a benchmark against competing products/materials. In addition, it will provide tools for the corrugated industry to use in performing consistent calculations and uniformly responding consistently to customer inquiries.

As a summary, the following points were highlighted:

- Begin with the end in mind
 - What is important to you and your audience(s)?
- Follow ISO 14040 guidelines
 - Assures you're open, objective and transparent
 - Provides a credible basis for communications & comparisons
- Choose the best LCA practitioner & reviewers
- Use the results to improve your industry, company or product
- Enjoy the never-ending journey!

Dwight concluded: "We learned that sustainability and life cycle approaches are strategic bridges to prioritizing and implementing sustainable initiatives which will create value for the associations that make up the Corrugated Packaging Alliance and for their members. That's been the guiding principle in planning a useful LCA for our industry. In addition, we plan to work through the EPA, NGOs and the academic community to replace the less accurate and considerably dated information that is being used by broad audiences to judge our products. And lastly, we will work through the International Corrugated Case Association (ICCA) and its newly established Sustainability Committee, to persuade the international corrugated community to utilize common methodologies -- including goal, scope, boundaries and functional unit -- to allow for meaningful comparisons in what has become a global marketplace for corrugated containers."

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