How to Know If and When It’s Time to Commission a Life Cycle Assessment

CAMX Education Session:
LCA Introduction: Tuesday, Oct 14th
Oct 13-16, 2014 Conference - Orlando, FL

Co-presenters:
Mike Levy, American Chemistry Council (ACC)
Gary Jakubcin, B&G Jakubcin & Associates LLC
What is a Life Cycle Assessment?

Life Cycle Thinking = Taking account of the environmental, social, economic impacts of a product over its entire life cycle

Focus of ICCA Guide - Describe:

- What is an LCA
- How LCA can be used to understand chemical industry contributions to sustainability
- Benefits and limitations of LCAs
- How to interpret/communicate LCA results
History of LCA

- Developed in the late 1960s/early 1970s
- Evolved from “eco-profiles” to current 4 basic, interdependent stages of an LCA:
  - Goal and Scope
  - Inventory Analysis
  - Impact Assessment
  - Interpretation
Commonly Used LCA Metrics

International/U.S. sources identified and defined key metrics, addressing:

- Energy Demand
- Global Warming
- Ozone Depletion
- Water Footprint
- Eco and Human Toxicity Assessment
- Land Use
What Can LCA Do?

- Highlight value chain efficiency opportunities
- Promote understanding of product manufacture and delivery systems
- Identify areas in value chain that need improvement
- Ensure that changes do not “shift the burden”
- Highlights trade offs
- Compare two systems that deliver same service
- Benchmark progress
- Provide footprinting data
- Support environmental claims
What Doesn’t LCA Do?

- Does NOT measure product performance
- Does NOT address compliance with environmental laws
- Does NOT include “bricks and mortar” of capital equipment
- Does NOT include analysis on support personnel needs
- Does NOT normally measure building space conditioning
- Does NOT include minor inputs
- Does NOT provide information about employee direct impacts
- Is NOT a risk assessment analysis
- Does NOT define specific course of action to take
How to Decide if LCA is the Right Tool

Examine:

- Product environmental/energy attributes
- Trade-offs
- Consideration of life cycle stages, unit processes and flows
Integrated Decision Making

- Review of decision making process and tools - including and separate from an LCA
- Summary of the strengths and limitations of an LCA
LCA Approaches: What Works Best

Basic Questions:

• What are you trying to accomplish?
• What questions are you answering?
• Who will use the results?

Types of LCAs:

• Scoping, Screening and Simplified LCAs
• Comprehensive Complete LCAs
• Product Comparisons
• Attributional and Consequential LCAs
Data Availability, Quality and Sources

- Basic data quality requirements to consider before conducting an LCA
- Different types of data:
  - Primary company data
  - Public or purchased data
Professional Expertise

Benefits of LCA tools:

- Using LCA software
- Engaging a qualified LCA professional
Using and Communicating LCA Results

Key considerations when conducting an LCA:

• Be as accurate as possible

• Understand the boundaries of your study

• Don’t take shortcuts - comprehensive data collection is important

• Don’t “cherry pick” study results - full transparency is key

• Importance of critical review / peer review
Conclusion

• ICCA hopes this guide enables decision makers to pick and choose the right LCA tools

• Keep researching - new tools and developments are always on the horizon
ACLCA - New Certification Effort


- Special committee formed to develop similar certification for LCA executives who manage sustainable programs

- ICCA Executive Guide may be included as a resource under ACLCA certification exam/topics
Questions?

For More Information, contact:

Mike Levy
Senior Director, Life Cycle Issues
American Chemistry Council (ACC)
Mike_Levy@americanchemistry.com

Gary Jakubcin
B&G Jakubcin & Associates, LLC
gary.jakubcin@gmail.com