

*An Introduction to Input-Output LCA Theory and Methodology, its Strengths and Weaknesses and a Comparison between Input-Output LCA and Process LCA*

*Gregory A. Norris*

*Sylvatica / Harvard School of Public Health / University of New Hampshire*

This presentation will attempt to clarify the essential equivalencies and differences between Process Life Cycle Inventory analysis (PLCI) and Input-Output Life Cycle Inventory analysis (IO-LCI). The assumption is made that forum participants have a working familiarity with PLCI (although such familiarity is not required), and enough of an introductory familiarity with IO-LCI to be interested in it. The assumption is also made, based on 5 years of discussion with LCA practitioners and users, that there are important opportunities to clear up some misconceptions about how PLCA and IO-LCA differ. The presentation will address the following questions:

- How do the assumptions, methods, and data sources of PLCA and IO-LCA differ?
- How does IO-LCA work?
- How do the results and conclusions from PLCA and IO-LCA tend to differ?

The presentation will review the essential nature of PLCA in the context of matrix methods, and then introduce IO-LCA from this same perspective, highlighting the differences and equivalencies in data sources and usage. It will review the relative strengths and weaknesses of these two complimentary (and ultimately combinable) approaches to Life Cycle Inventory analysis.