The U.S. LCI Database: What is it and How is it Used

Michael Deru and Wayne Trusty

The U.S. Life Cycle Inventory Database was initiated to fill a need for publicly available data that is based on a consistent set of standards. The National Renewable Energy Laboratory has worked with several groups like the Athena Institute, Franklin Associates, and Sylvatica to develop the database. We have worked hard to achieve compatibility with international standards and international databases such as EcoInvent.

The goal of the database is to provide LCI data for all commonly used unit processes for energy, transportation, materials, and processes. The database does not contain complete product LCIs or LCAs that would enable comparison; rather, it contains the building blocks to create such LCIs and LCAs. This modular approach supports the underlying intentions of the U.S. LCI Database Project, which are to facilitate the development of environmentally oriented tools, to support realistic product assessment and labeling systems, and to support the undertaking specific product or process LCAs.

The database is housed at NREL and is freely accessible through the Internet. There are six files available for each data module that document the data and present the data in four formats to support different user needs. We are working with several LCA tool developers to include the U.S. LCI data with their tools and broaden the use of the database. Submitting data to the database is simple and requires three files to present the data and document how it was developed.

We have made a strong start, but much work remains, and we are working with industry, government agencies, and NGOs to expand the database with more data and ensure that we are proceeding in a way that supports the needs of LCI and LCA practitioners. In addition, we are working to develop consistent support to ensure the long-term growth and maintenance of the database.