



International Conference and Exhibition on
LIFE CYCLE ASSESSMENT:
Tools for Sustainability

Sponsored by the US EPA's Office of Research and Development

National Risk Management Research Laboratory and
National Center for Environmental Research and Quality Assurance

with

the Institute for Environmental Research & Education and
the Environmental Quality Management Institute

APRIL 25-27, 2000

**Hyatt Regency Crystal City
Arlington, Virginia (Washington DC Metro Area)**

Visit the *InLCA* web site at <http://www.epa.gov/ttnrmrl/inlca.htm>

Purpose

LCA is being developed and applied internationally by corporations, governments, and environmental groups to incorporate environmental concerns into the decision-making process. It is being widely adopted as a means to evaluate commercial systems and develop sustainable solutions.

LCA identifies the impacts of products and services over all life cycle stages and media, enabling informed decision-making. LCA can identify and verify environmental benefits that will lead to sustainable practices.

Presentations and discussions during *InLCA* will focus on approaches that integrate environmental, economic, and social values for decision-making, with emphasis on LCA applications and case studies. The conference will bring together practitioners and decision-makers. Speakers will discuss how LCA can be used to:

- *create marketing advantages;*
 - *improve environmental decision-making;*
 - *save organizations money;*
 - *organize environmental management systems;*
 - *measure environmental performance and progress towards sustainability;*
 - *communicate within and outside of organizations.*
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Who Should Attend

The audience for this conference is anyone who would like to learn from environmental leaders how to better incorporate environmental data and information into their organization's decision-making process. In addition, specific sessions will target cutting-edge LCA research and development. The audience will include representatives from industry, government, private consultants, academia, and environmental groups.

Exhibits

An exhibition hall will be part of the conference allowing LCA developers and practitioners to meet potential clients, and industrial, government and policy experts to meet and compare different LCA practitioners and other environmental services providers. The exhibition hall will consist of table top displays (4' X 6').

For those interested in being an exhibitor at *InLCA*, please send an e-mail to InLCA@iere.org, send a fax to (206) 463-7432 (Attn: *InLCA* Conference), or call (206) 463-7431 for exhibit space and cost information.

Fee

\$175 - Early Registration
\$200 - Registration after 2/14/00
\$150 - Students & Government

Location

Hyatt Regency Crystal City, (Washington D.C. Metropolitan Area)
2799 Jefferson Davis Highway
Arlington, VA 22202 USA

Lodging

A limited number of rooms have been reserved at the hotel. To reserve one of these rooms, at the conference rate of **\$118.00 + 9.75% tax per night**, please call the hotel directly by **Monday, April 3, 2000**. Rooms at the Hyatt Regency Crystal City Hotel may not be available at the conference rate after this date.

Reservations: (703) 418-1234 or 1-800-233-1234. Be sure to reference the "US EPA Life Cycle Assessment Conference".

Hotel Registration Due Date: Monday, April 3, 2000

Conference Registration

To register online: <http://www.iere.org/register.htm>

Pre-Registration Due Date: Tuesday, April 11, 2000. After this date, attendees will be asked to register on-site at the hotel.

If you would prefer to register by fax, please send your name, affiliation, address, phone number, and e-mail address to: (206) 463-7432 (Attn: *InLCA* Conference). If you have any additional questions, please call (206) 463-7431.

PRELIMINARY AGENDA

TUESDAY, APRIL 25, 2000

7:00 AM Registration

Opening Plenary

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| 9:00 AM | Greetings | Norine Noonan, EPA Office of Research & Development |
| 9:15 AM | Keynote Speaker | Anders Wijkman, EU Parliament |
| 10:00 AM | Second Speaker | Bas de Leeuw, United Nations Environment Programme |

10:30 AM Break

11:00 AM Third Speaker Marc Epstein, Rice University

11:30 AM Panel Discussion

12:00 PM Lunch

Session I Global Views of LCA

1:30 PM Rethinking LCA, Joel Ann Todd, The Scientific Consulting Group, Inc.

2:00 PM LCA in Industry & Business, Paolo Frankl, University of Rome, & Frieder Rubik,
Institute for Ecological Economy Research (IÖW)

2:30 PM Inventory of Automobiles, Ron Williams, General Motors Corp.

3:00 PM Break

3:30 PM Measures of Sustainable Development, Dan Fiorino, EPA Environmental
Strategies Division

4:00 PM LCA as a Measurement Tool for Climate Change, Kevin Brady, Five Winds
International

4:30 PM Land Use Issues in LCA, Rita Schenck, EcoSense

WEDNESDAY, APRIL 26, 2000 MORNING SESSIONS

| Session IIA - Pollution Prevention | Session IIB - Risk-Based Approaches | Session IIC - LCA Studies | Session IID - Decision Making Approaches |
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8:30 AM – 9:00 AM

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| Life Cycle Evaluation in Early Stages of Product Development for Different Car Door Concepts, B. Rosemann, Universitat Erlangen, Germany | Human Toxicity Potential/Assessment of Toxic Impacts in the Nordic LCA Practice, E. Hertwich, Norwegian University of Science and Technology | LCA of a PV System – Application in an Island Economy, C. J. Koroneos, Aristotle University of Thessaloniki, Greece | A Decision-Analytic Framework for Impact Assessment, E.G. Hertwich, Norwegian University of Science and Technology |
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9:00 AM – 9:30 AM

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| Environmental Improvement of Automotive Electrical Devices by DFE Techniques based on Life Cycle Impact Assessment, F. Castells, University Rovira I Virgili, Spain | Comparison of Two Equivalency Factor Approaches with Simplified Risk Assessment for LCIA of Toxicity Impact Potential, D.A. Tolle, Battelle | The Global Production System for High-purity Silicon: LCA with a Geographical Component, E. Williams, United Nations University/Institute of Advanced Studies, Japan | Better D&D Decision-making through LCA, K.L. Yuracko, Oak Ridge National Laboratory |
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9:30 AM – 10:00 AM

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| Repercussions of Advanced Materials & Propulsion Technologies on the Automobile Recycling Infrastructure, J. A. Isaacs, Department of Mechanical, Industrial and Manufacturing Engineering | Risk-Based Integration of Economics and Life Cycle Environment: Two Methods, G. Norris, Sylvatica | E-mail vs. Ordinary Mail: An Ecological Comparison, M. Zurkirch, Swisscom AG, Switzerland | Accounting for Engineering Trade-Offs for Decision-Making, K. Stone, US EPA |
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10:00 AM - 10:30 AM Break

10:30 AM – 11:00 AM

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| Use of LCA, TCA & AHP for Evaluation of Pollution Prevention Alternatives, K.M. Lee, Ajou University, Korea | A Risk-Based LCA Framework for Analyzing Complex Technologies, R.P. Anex, University of Oklahoma | LCA in the Service Industries: Case Study of Telecommunications and Tourism, A. Horvath, University of California at Berkeley | By-Product Synergy –The Ideal Product Disposition, A. Mangan, Applied Sustainability LLC |
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11:00 AM – 11:30 AM

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| Use of Life Cycle Costing in Selecting Pollution Prevention Technologies in Navair, U.S. Navy, B. Custer, SAIC | Consequences of the Damage Approach on the Valuation Step and LCA in General, P. Hofstetter, ORISE PostDoc/US EPA | Improved Productivity and Quality in the Indian Steel Sector - A Life Cycle Approach, S. Maudgal, Ministry of Environment & Forests, India | Utility-Based Framework for Material and Process Selection in the Integrated Chain Management of Polymers, W. Mellor, Polymer Research Centre, UK |
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11:30 AM – 12:00 PM

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| Life Cycle Management, R. Kainz, DaimlerChrysler Corporation | Risks & LCA's for Home Buildings: Product-Based vs. Input-Output Approaches, Y. Nishioka, Harvard School of Public Health | LCA Case Studies (temp), O. Joliet, EPFL, Switzerland | A New Guide for LCA for Decision Support, J.B. Guinée & G. Huppes, CML Leiden University, The Netherlands |
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12:00 PM – 1:30 PM Lunch

WEDNESDAY, APRIL 26, 2000 AFTERNOON SESSIONS

| Session IIIA – Management & Regulatory Issues | Session IIIB - Data Quality and Availability | Session IIIC – Product & Process Development & Design I | Session IIID – Measure of Sustainable Development & Natural Resource Use |
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1:30 PM – 2:00 PM

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| Integrated LCA and Financial Analysis of the Implications of Implementing the Proposed WEEE Directive, N. Kirkpatrick, Ecobalance, UK | Uncertainty & Sensitivities in LCA's for Waste Management Systems, M. Koller, Universitaet Pottsdam, Germany | LCA of a New Application of Plastic Waste, R. Vidal, University Jaume I, Spain | The E2 Vector/The Surplus Energy Concept as a Basis for Quantifying the Depletion of Mineral Resources and Fossil Fuels, M. Goedkoop, Pre Consultants, The Netherlands |
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2:00 PM – 2:30 PM

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| Macro LCA as a Tool for Regional Sustainable Development and Environmentally-Technogenous Safety, Z. Broyde, Centre "EcoResource," Ukraine | Confronting Uncertainty & Variability in LCIA: A Strategy for Evaluating Model Performance, T. McKone, University of California at Berkeley | Integrating the Life Cycle Concept in the Product Development of Small and Medium Sized Enterprises: 2 Tools that Support this Integration, A. Vercalsteren, VITO | International Comparison of Environmental Performance of Major Multinational Construction Firms in Europe, M.A. Farshchi, University of Reading, UK |
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2:30 PM – 3:00 PM

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| A Methodical Approach on Ecobalancing and EIA based on Material Flow Networks – A Case Study on a German Beer Brewery, A. Faustmann, Otto-von-Guericke-Universität Magdeburg, Germany | The Other Half of the Story: The Implications of System Boundary Incompleteness for LCA Inventory Data, G. Treloar, Deakin University, Australia | How to Integrate LCA into Product Development, A. Atik, Darmstadt University of Technology, Germany | Quantitative/Qualitative Approach towards the Assessment of Sustainable Buildings, K. Reiche, Technische Universität Darmstadt, Germany |
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3:00 PM – 3:30 PM Break

3:30 PM – 4:00 PM

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| 3M's Life Cycle Management Process: A Practical Approach, E. Price, 3M | LCA, Data Quality & Sensitivity Analysis: The Case of Mobile Fluid Power Systems, M.C. McManus, University of Bath, UK | Instruments for Supporting Environmentally Sound Product Development, R. Anderl, Darmstadt University of Technology, Germany | Material Flow Analysis with LCA for Sustainable Industry/Community Interactions – A Practical Demonstration for Gold Mining, A. Scott, Griffith University, Australia |
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4:00 – 4:30 PM

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| Programmatic EHS Analyses – The Military's Approach to Environmental Life-Cycle Planning, B. Langer, SAIC | Site-Dependent LCA of Ozone Formation, Nutrient Enrichment and Acidification, J. Potting, Technical University of Denmark, Denmark | Ensuring the Sustainability of Domestic Refrigerators - An Approach Using LCA, C. Ciantar & M. Hadfield, Bournemouth University, UK | Resource Use Management, N.T. Hoagland, US EPA |
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4:30 PM – 5:00 PM

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| Life Cycle Inventory of a Modern Municipal Solid Waste Landfill, V. Camobreco, Ecobalance | Comparison of Different Streamlined LCA Methods for Product Design, M.D. Bovea, Universitat Jaume I, Spain | The Design for the Environment Computer Display Project: Life Cycle Assessment of CRTs and FPD's Technologies, D. Singh, US EPA DfE | Life Cycle Study on Palm Oil, S. Yusoff, Universiti Malaya, Malaysia |
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THURSDAY, APRIL 27, 2000 MORNING SESSIONS

| Session IVA – Software Tools & Data Systems | Session IVB –Weighting & Economic Valuation | Session IVC – Product & Process Development & Design II | Session IVD – External Reporting & Communication |
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8:30 AM – 9:00 AM

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| BEES – Combining Life Cycle Costing and LCA into a Practical Software Tool, B. Lippiatt, NIST | Comparative LCA and Externality Analysis of Biodiesel & Fossil Diesel Fuel, C. Spirinckx, VITO | An Integrated Product Life Cycle Design Tool, B. Glazebrook, Ecobalance | Using an LCI Database for Reporting and Communication, A-C. Pålsson, Chalmers Univ., Sweden |
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9:00 AM – 9:30 AM

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| GaBi 3 Use in Impact Assessment & Sensitivity and Uncertainty Analysis/Life Cycle Engineering, S. Spatari, PE-Americas LP | Incorporating Costs in LCA, K. Shapiro, Tellus | Assessment of Materials and Process Options within Cascaded Systems: A Case Study, E. Williams, University of Surrey, UK | Comparing Eco-labeling Policies: Experimental Evidence, M.F. Teisl, University of Maine |
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9:30 AM – 10:00 AM

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| TEAM 3.0 – Tool for Environmental Analysis and Management, R. Coulon, Ecobalance | Determination of Weighting Factors and its Application to the LCA of a Printed Circuit Board, K.M. Lee, Ajou University, Korea | Application of LCA to Select Technology for Leachate Treatment, J. Kochany, Conestoga-Rovers & Associates | LCA for Environmental Product Information Schemes, P. Frankl, Dip.to ITACA, Italy |
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10:00 AM – 10:30 AM Break

10:30 AM – 11:00 AM

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| Simple, but Sound LCA System Based on Indicators/ EcoIndicator 99 Overview, M. Goedkoop, Pre Consultants, The Netherlands | Comparison of Simplified Evaluation Methods with LCA by Means of Case Studies, A. Atik, Darmstadt University of Technology, Germany | LCA for Indoor Exposure, G.A. Norris, Sylvatica | LCA for Environmentally Preferable Purchasing: the FRED Model, M.A. Curran, US EPA |
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11:00 AM – 11:30 AM

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| Making LCA Data Available via the Internet: LCAccess, T. Skone, SAIC | Advances in Normalization & Weighting in North American LCA, G. Norris, Sylvatica | Decision Support for Cleaner Technologies by Estimating Exposures to Industrial Emissions Using Modeling and GIS, J. Zhang, UCLA | LCA for Community-based EMS, R. Schenck, EcoSense |
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11:30 AM – 12:00 PM

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| Development of TRACI – Tool for the Reduction and Assessment of Chemical Impacts, J. Bare, US EPA | Quantitative Data Assessment for Normalization Reference, S. Suh, Ajou Univ., Korea | Environmental Life Cycle Cost Analysis of Products, S. Kumaran, National University of Singapore | Material/Energy Flow Balance Analysis with LCA for a Large Metropolitan City, K. Krrishnamohan, Griffith University, Australia |
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12:00 PM – 12:30 PM

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| Environmental Management Infrastructure (temp), Y. Fukushima, University of Tokyo, Japan | Chinese Site-Normalization References for LCIA, J. Yang, Chinese Academy of Sciences, Technical University of Denmark | LCA as a Decisional Tool in Telecommunications Field, P. Fea, L. Giacomello, CSELT, Italy | Using LCIA for Defining Environmental Preferability, S. Rhodes, SCS |
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12:30 PM – 1:30 PM Lunch

1:30 PM - 4:00 PM Wrap-Up and Discussion on LCA

This session will begin with 5-minute presentations summarizing and analyzing what was presented in the 12 platform sessions. Attendees will participate in discussing the following key questions and will be asked to share their views.

- What are the most promising applications of LCA and what should be done to encourage those uses?
- What might be the least promising applications?
- What are the most pressing needs for new or improved methods?
- Are various countries in sync or are they in very different places and what difference does that make?
- Where does LCA go from here?

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