



iNEMI[®]

International Electronics Manufacturing Initiative

iNEMI Initiative
Eco-Impact Evaluator for
Information Communications
& Technology (ICT)
Equipment

Tom Okrasinski (Alcatel-Lucent)
Todd Myers (Cisco)

December 2008

Advancing manufacturing technology

DRAFT

Background

Area of Common Concern:

- **ICT equipment LCAs are generally non-competitive** - methods and data are similar for typical classes of products
 - 90% of parts have common application in ICT product types / classes (we use the same suppliers)
- **Opportunity** - can we use a “building block” approach in providing LCA-based eco-impact information for ICT product assets / sub-assemblies ?
 - Develop an emulator / evaluator - based possibly on asset / sub-assembly type, weight, size, number of devices by class, energy consumption per LCA stage, etc.
 - Establish consensus within major ICT industry constituents
 - System agnostic, updateable databases via cross-industry information sharing
 - Evaluator can be equally used for company-specific products - e.g., get credit for post-consumer content, energy efficiency feature, new material substitute, etc.)

End Results

- New approaches for achieving the end result can be researched, trialed, and agreed upon within our industry sector, e.g., eco-impact based on purely energy consumed within the lifecycle stage
- Eco-information can be conveyed via Eco-Declaration for product family (similar to EPEAT)
- Simplified LCA approach for product classes with most products in a class being the same
 - Clear articulation of what is included, with minor adjustments for differences
 - Helps suppliers succeed - common / simplified approach promotes easy adoption within supply chain; unified results for ICT industry on eco-benefits of products
 - Employs common commodities to establish baseline
 - Help distinguish differences for potential material substitution / elimination initiatives (e.g., PVC alternatives)
 - In cascading down to suppliers, we may have best practices in manufacturing operations being introduced into the supply chain through the OEMs and tiered suppliers

Additional Potential Contributions

End-of-Life (Recycling):

- Ask recyclers for data based on product family/class or material (same as we are doing for logistics)
- Data from recyclers should be more accurate - versus what can be assumed (reflect what is being done, not what is assumed)
- Redefine what the end game should be:
 - Refurbish, reincarnate - innovative strategies for product return while there is still value after refurbishing
 - At final product EOL, innovative ways to encourage component / materials mining

What has been done so far?

- Individual LCA assessments with commercial or internally developed tools / software
- Governmental - EU initiative for common LCA approach / databases within in industry types; US EPA initiatives / developments; others...
 - ILCD Handbook: technical guidance documents to the ISO 14040 Series
 - ILCD Data Network: network of independently managed and published Life Cycle Inventory data sets. Release of an enhanced version planned for end 2008
 - Question: should i-NEMI join / contribute to the ILCD initiative? (e.g. electronic and telecom-specific data)
- Research studies / publishings
- OEM, ODM, component - database compilations
- LCA specialists - software, academia, consultants

Potential Project Schedule

- Project Formation
 - Formalize project; identify chairs - December 2008
 - Begin SOW development - January 2009
- iNEMI Technical Committee Review and Approval
 - iNEMI TC Meeting February 2009
- Project Execution
 - March 2009 - January 2010
 - Release results
 - To project participants - February 2010
 - To iNEMI Membership - March 2010
 - Publish results (IPC/APEX) - April 2010

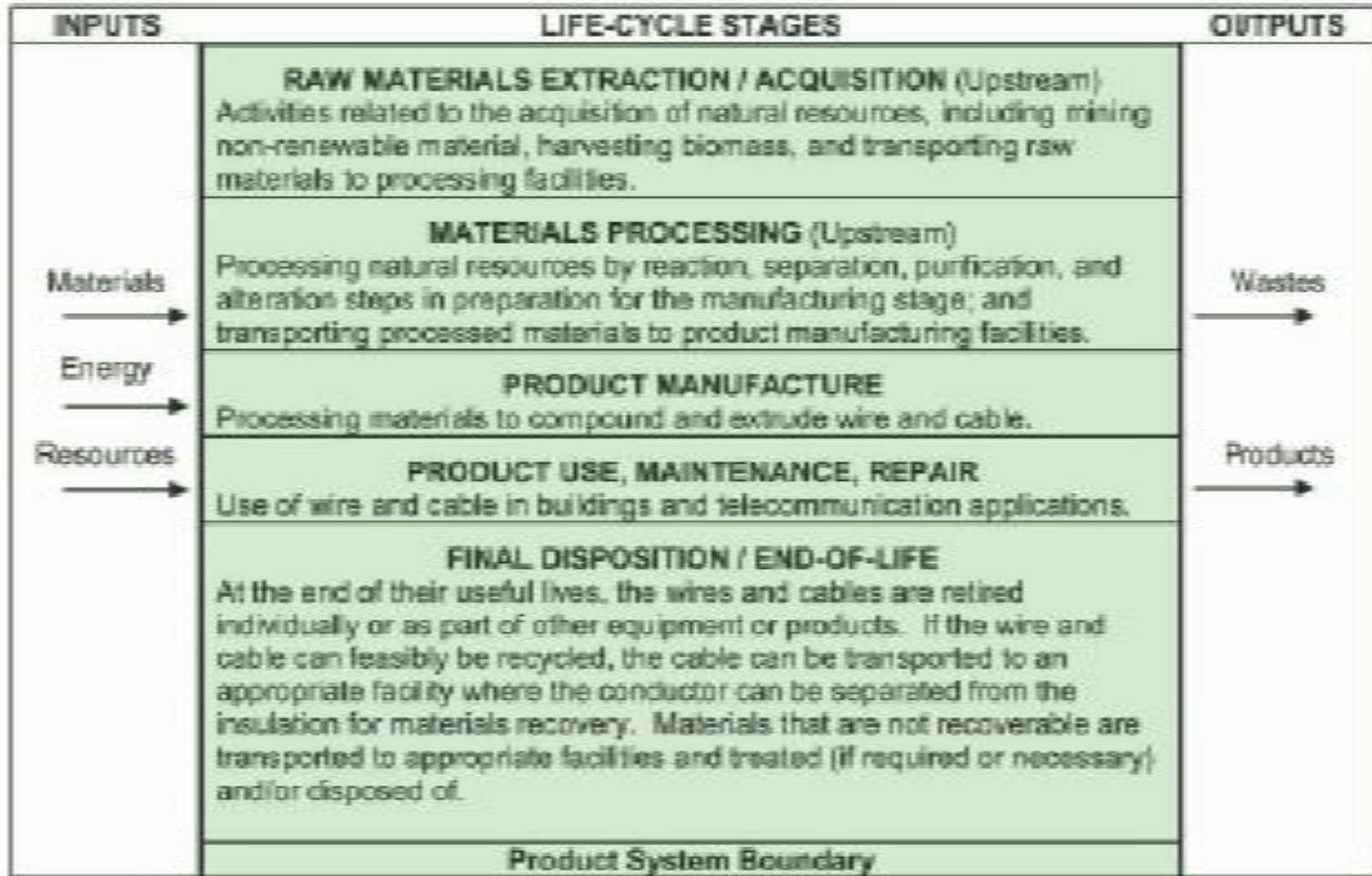
Potential Project Elements

- Task 1 - Research available information, tools, methodologies, approaches
- Task 2 - Define modeling scope / boundaries, approach & methodology
- Task 3 - Develop evaluator model, operating parameters
- Task 4 - Compile data bases
- Task 5 - Test evaluator with selected case studies
- Task 6 - Finalize evaluator and prepare documentation (share data bases ?)
- Task 7 - Set future needs, upgrades, add-ons/options, research plans

Who could participate?

- OEMs
- ODMs
- EMSs
- Component manufacturers
- Universities
- LCA consultants
- Governments - US EPA, EU Commission

LCA Stages (US EPA)



For More Information

Contact :

Jim Arnold

jim@rissastudios.com

Tom Okrasinski

tokrasinski@alcatel-lucent.com

Todd Myers

todmyers@cisco.com

INEMI

Advancing manufacturing technology

