



# **iNEMI**

International Electronics Manufacturing Initiative

## **2009 Environmentally Conscious Electronics (ECE) TIG Technology Plan**

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**Advancing manufacturing technology**

# 2007 ECE Technical Plan Overview

- To produce environmentally conscious electronics the ECE TIG must continue to keep pace with:
  - Continuing emergence of material restrictions
  - End-of life requirements
  - Energy efficiency requirements and renewable energy
  - Holistic design requirements
  - Sustainable business practices
- To achieve these goals the ECE TIG breaks the GAPS into 4 main groups:
  1. **Materials**
  2. **Energy**
  3. **Recycling**
  4. **Design**

# Proposed Focus Areas for 2009 ECE TIG Plan - MATERIALS

## 1. Materials – RoHS revision, REACH and Emerging Technologies

### ➤ RoHS Revision

- **Technical viability of alternatives to Pb in high reliability products (prepare for EU RoHS exemption sunset ~2014)**
- **Technical viability of alternatives to Hg-based lamps in displays and projectors (prepare for EU RoHS exemption sunset ~2012)**
- **Technical viability of alternatives to potential RoHS revision substances (HBCDD, DEHP, BBP, DBP), prepare technical use exemption proposals as appropriate**

### ➤ REACH

- **Technical viability of alternatives to REACH SVHCs in electronic products**

### ➤ Environmental Leadership Technologies

- **Technical viability of alternatives to BFRs in printed circuit board laminates (iNEMI HFR Free Leadership project, in progress)**
- **Technical viability and environmental life cycle assessment (LCA) of alternatives to PVC in power cords (iNEMI PVC Alternatives project, in progress)**
- **Assess EHS information gaps/risk for nanomaterials**
- **Develop sustainability guidelines for recycled content and bio-based materials (sourcing, recyclability, biodegradation, etc)**



# Proposed Focus Areas for 2009 ECE TIG Plan - ENERGY

## 2. Energy – IT Solutions, Promote Basic Principles for Energy Efficiency & Harmonized Standards

### ➤ IT Solutions

- Identify and promote IT equipment energy management solutions that lower costs - high efficiency PSUs, drive architectures that scale energy consumption to useful work performed, etc
- Enable industry power management & conservation

### ➤ Promote Basic Principles for Energy Efficiency & Harmonized Standards

- Promote harmonization of energy regulations and standards (Energy Star, EuP, etc)
- Promote Governmental and Utility Investment in Energy and Efficiency Initiatives (ex: 80 Plus Program, etc)



# Proposed Focus Areas for 2009 ECE TIG Plan – REUSE/RECYCLING

## ➤ Develop metrics and infrastructure for effective resource management

- Prioritize product design features that will enable cost-effective, environmentally-responsible reuse/recycling, use data to influence emerging regulations and standards (Basel Convention, R2 guidelines, EPEAT, etc)
- Quantify & promote dematerialization efforts underway within industry
- Increase information sharing between brand owners and electronics recyclers to increase reuse/recycling efficiencies & lower costs

## ➤ Identify opportunities for post-industrial & post-consumer recycled content

- Quantify use of recycled content metals and plastics in “common” electronic components today, identify opportunities for further adoption

# Proposed Focus Areas for 2009 ECE TIG Plan – ECO-DESIGN

## ➤ Promote life cycle thinking

- Develop building block approach to LCAs in IT industry (iNEMI Eco-Impact Evaluator Project, in progress)
- Participate in international carbon footprint standards, particularly as they relate to product carbon footprint (PCF) labeling (ex: GHG Protocol)

## ➤ Encourage harmonization of green procurement standards in both B2B and B2C markets

- Prepare for revision to IEEE 1680 (EPEAT standard for PCs) and future EPEAT standards for printers, servers, etc
- Identify key requirements differences in regional green procurement standards, work towards global harmonization (ex: painted plastics)
- Address emerging retailer interest in sustainability “indexing” in EU, US

## ➤ Engage in international eco-design standards

- Existing ICT/CE Vertical IEC Standard 62075
- New Horizontal “Environmental Conscious Design” IEC Standard 62430



# Back-Up



# 2009 Technical Plan / Research Priorities Schedule

- Distribute Schedule and Template to TIG Chairs / TC 1/16/09
- Staff to Supply Mined Starter Gap Lists to T.C. by 1/20/09
- T.C. Discusses TIG Add/Delete Status during Telecom / 1/27/09
- Staff Sends Mined Gap Lists For Chapters With TIGs to TIG Chairs 1/28/09
- RC Telecon on Research Priority Structure on 2/3/09
- Staff Presents Mined and Categorized List of Gaps / Needs to T.C. / R.C. For Vote on Research Priorities For Use in Priorities Document 3/1/09
- TIGs / Staff Prioritize Gaps / Needs Lists by 3/10/09 For Analysis Meetings
- **TIG Chairs to Hold TIG Technical Plan Kick-Off Calls – Early March**
- **TIG Chairs to Hold Gap Analysis Meetings at APEX, Las Vegas – 4/1/09**
- **TIG Chairs / TC Discuss Gaps / Technical Plans at APEX, Las Vegas - 4/3/09**
- **TIG Chairs / Staff Develop Technical Plan From Analysis Meetings and T.C. Feedback From APEX Meeting**
- **Possible ECE TIG Gap Analysis Meeting at ISSST, Phoenix - 5/19-21/09**
- **T.C. and R.C. Face to Face Meetings on Technical Plan and Research Priorities Drafts / Status 5/26-29/09 ECTC, San Diego**
- **TIGs Finalize Their Plans Based on T.C. Feedback 7/15/09**
- **Research Committee Face to Face to Review Research Priorities Draft 7/?/09**
- **Release 2007 Technical Plan / Research Priorities 8/15/09**

