

Outline for BIFMA Standard

1. *Purpose and Goals*
2. *Scope*
3. *References and Tools*
4. *Definitions*
5. *General Requirements*
 - a. *LCA*
 - i. Understand life cycle costs/benefits internal/external
 - b. Reduce overall energy use and increase renewable energy use
 - c. Natural capital vs. man-made
 - d. *Product labeling and marking*
 - e. *Compliance of Product Platforms*
6. Sustainable Furniture Evaluation Criteria – Products
 - a. Human & Ecosystem Health (*Safe for Public Health and Environment*)
 - i. Strategy/Reduction/Elimination Chemicals of Concern; supplier due diligence required
 1. Determine appropriate lists (e.g. Cal prop 65, *SARA Title III Chemicals*, *POPS*, *PBTs*, etc...)
 2. Material specific requirements apply
 3. *Minimize indoor VOC emissions*
 - a. e.g. formaldehyde not to exceed 0.5 of the *OEHHA REL*.
 - ii. Reduce GHGs and other pollutants from Energy - Material specific requirements apply? (THIS SECTION OR ENERGY?)
 - b. Energy (*Renewable Energy and Energy Efficiency*)
 - i. Inventory the use (energy as related to the product: map, quantify)
 1. Product manufacturing, assembly, transport impacts
 2. Production facility impact – what percentage contribution to overall?
 3. Supply chain energy use
 4. Energy per unit of product
 - ii. Reductions?
 - c. *Biobased or recycled materials (include preconsumer vs. postconsumer requirements)*
 - i. *Inventory of biobased or recycled materials*
 - ii. 5-24%; 25-44%, 45-64%, 65-84%, 85-100% biobased or recycled content for carpet
 - d. *Reclamation, sustainable reuse and end of life management*
 - i. *Reclamation program – closed loop*
 - ii. *Product durability/Performance*
 - iii. *Extended product life of system?*
 - iv. *Different percentages of product reclamation: 1 to >30%*
 - v. Take-back or other end-of-life strategies (warranties, leasing,...)
 - vi. Remanufacturing
 - vii. Biodegradation

- e. Design Elements
 - i. *DfE - minnesota?*
 - 1. end-of-life considerations
 - ii. *LCA process – ISO 14040-14048?*
 - iii. Measure durability/flexibility/longevity; design as appropriate
 - iv. Labeling to facilitate recycling/reuse
 - v. Packaging requirements
 - vi. Avoid downcycling
 - vii. Control first costs via integrated design
 - viii. Design for disassembly to avoid disposal costs
- f. *Innovation*
 - i. *Dematerialization, Energy Efficiency*

7. Sustainable Furniture Evaluation Criteria – Facilities/Companies

- a. *Human & Ecosystem Health (Safe for Public Health and Environment)*
 - i. Chemical Strategy Policy
 - 1. Prerequisite at the corporate level
 - ii. Chemical inventory – Facility
 - 1. Prerequisite at the MSDS level
 - a. 0.1% by weight or greater for carcinogenic chemicals
 - b. 1% by weight or greater for toxic chemicals
 - 2. More “points” for chemicals below the MSDS level (<0.1%)
 - iii. Chemicals of Concern - Facility and process chemicals
 - 1. Emissions
 - 2. Chemical specific requirements (e.g. lubricants, welding materials, metal cutting fluids, etc...) – safer substitutes?
 - iv. Chemical Use inventory – Upstream processes/facilities (supplier process) – tier 2 requirement?
 - 1. Supplier due diligence – supplier use of chemicals of concern
 - 2. material specific requirements
- b. *Renewable Energy and Energy Efficiency (Energy)*
 - i. Map energy use
 - ii. Operations (EnergyStar, Green Lighting)
 - iii. Overall strategy for continual improvement
 - iv. Measure GHG emissions
 - v. *Use of renewable energy – 1%, “cleaner and greener certification”, 2-10%, 11-25%, 26-50%*
 - vi. *Upstream product stages (facilities)– use of renewable energy – 26-50%, 51-100% - tier 2?*
- c. Water management
 - i. Inventory for use of water – embodied water use of material, process, irrigation, stormwater runoff, sanitary, cooling (contact and non-contact)

- ii. Gallons per unit of production (across the supply chain as tier 2?)
 - iii. Water availability at facility
 - iv. Effluent discharges
 - d. Corporate Responsibility
 - i. *EMS and publicly available targets*
 - 1. *EMS Certification*
 - ii. Policy on social responsibility (does CEO support code of conduct?)
 - iii. Social responsibility standard?
 - iv. Workplace safety (beyond compliance)
 - v. *Social Indicator Reporting – Global Reporting Initiative* or other program
 - vi. Governance diversity
 - vii. SOCIAL: Approaches that support ecosystem services (forests, wetlands as purifiers; wildlife corridors for pollinators for agriculture)
 - viii. Extend expectations for social accountability into supply chain (tier 2?)
 - 1. Supply chain reporting? Higher tier
 - 2. Organizational development – has company communicated core values to suppliers?
 - 3. public reporting (e.g., GRI)
 - ix. Community Outreach/Involvement
 - 1. Volunteer work
 - 2. Training
 - 3. Stakeholder involvement in decision-making
 - x. Healthy workplaces – definition?
 - xi. *Closed Loop Process*
 - xii. *Transaction disclosures?/ Credit/public reporting*
 - xiii. Chemical and material use disclosures – transparency
 - xiv. Apply efficiencies of operation reducing costs during the use phase (maintenance costs)
 - xv. Approaches that reduce or avoid regulatory or liability costs
 - xvi. Return on investment scheme net present and long-term value;
 - 1. time value measurement;
 - 2. Cost of ownership (does facility have ROI scheme that defines payback periods? maintain a list of future potential cost effective product strategies?)
 - xvii. Documenting change management
 - 1. product development
 - 2. cost/benefits for change management
 - e. *Innovation*
 - i. *Energy*
 - 1. *Efficiency*
 - 2. Credits for off-setting
8. Assessment Matrices as appropriate

9. *Compliance with Standard*

a. *Declaration*

b. *Communications*

10. Appendices

- a. Product Material-Specific Requirements based on life-cycle concerns and feasibility (e.g. steel recycled content should not be the same as particle-board recycled content) [note: workgroups with relevant technical expertise will need to set specific requirements for each material]
 - i. Steel
 - ii. Aluminum
 - iii. Textiles
 - iv. Wood
 - v. Composites
 - vi. Plastics
 - vii. Fiberglass
 - viii. Paper
 - ix. Adhesives
 - x. Paints and Coatings
 - xi. Cushionings (includes urethane foams)
 - xii. What else?
- b. Facility chemicals requirements
 - i. Lubricants
 - ii. Manufacturing Aids – identify key processes
- c. Safer chemicals/materials list – Data Bank concept