Supporting a Universal Eco-Label with Robust Life Cycle Assessment

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The Path Forward for Ecolabeling: LCA

- Life cycle assessment (LCA) has been identified as the up-and-coming tool to fulfill needs for ecolabeling and supply chain management.

- Ecolabels based in LCA include Environmental Product Declarations and Environmentally Preferable Product claims.

- Conventional LCA as practiced today has flaws:
  - Most conventional LCAs fail to consider up to half of the impacts to human health and the environment that are actually observed.
  - Most conventional LCAs use metrics that have no environmental relevance, which do not represent impacts occurring on the ground.
  - These flaws produce arbitrary results, not suitable for use in supply chain management or ecolabeling.
ANSI Initiative: Next Generation LCA

Draft LEO-SCS-002 Standard

Goals

◆ Ensure LCAs are comprehensive and provide uniformity in methodology
◆ Prevent greenwashing by LCA-based ecolabels
◆ Aid policy makers, manufacturers, procurement and supply chain managers in their effort to reduce environmental and human health impacts.

Contents

◆ Augments ISO-14044 framework
◆ Establishes guidelines for LCA-based ecolabeling

Key Features

◆ Generates complete life cycle impact profiles, including all relevant impacts
◆ Requires that measurements (category indicators) be environmentally relevant, accurately portraying impacts occurring on the ground
◆ Based in the cutting-edge of the science of impact assessment
◆ Streamlines LCA data collection through the iterative process
Using LCA for More Informed Material Selection

- LCA is frequently used to compare different materials. However, it is also possible to use LCA to compare differences in a given material, depending on the source.

- The same material from different sources can have dramatically different impact profiles.

- When the receiving environment is considered, systems with similar emissions will have differences in indicator results which can be orders of magnitude.
Example: Wood

The impact profile of wood products depends in large part on the way the forest is managed.

Before LEO-SCS-002 framework

- LCAs did not include impacts related to forest management in a scientific fashion, if at all
- Focused on minor issues related to milling and transportation
- Over-aggregation of results masked impacts on site or regional scale

OUTCOME: All wood is the same, overlooking real differences between clear-cut forests and well-managed forests

With the LEO-SCS-002 framework

- LCAs address all land use ecological impacts, e.g.:
  - Impacts to key species and biomes
  - Loss of old-growth trees
  - Changes in carbon storage at the forest level
- Evaluates impacts at scale of forestry operations

OUTCOME: All wood is not the same, depending on forest management practices used
Example: Steel

The impact profile of steel framing depends in large part on where the steel is produced.

Imported steel can have a radically different impact profile than steel produced in North America.

- LCAs did not include all emissions from transportation contributing to climate change – black carbon, tropospheric ozone
- Report results without environmental relevance
- Results not accurately accounting for variability in the receiving environment, if at all

**OUTCOME:** All steel is essentially the same, regardless of the conditions in the receiving environment where it is produced.

Before LEO-SCS-002 framework

With the LEO-SCS-002 framework

- LCAs include all emissions contributing to climate change, including black carbon and tropospheric ozone
- LCAs account for variability in the receiving environment, including:
  - exposed populations
  - severity of exposure
  - exceedance of known health thresholds

**OUTCOME:** All steel is not the same, depending on pollution controls and receiving environment conditions.